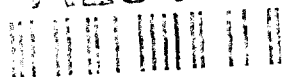
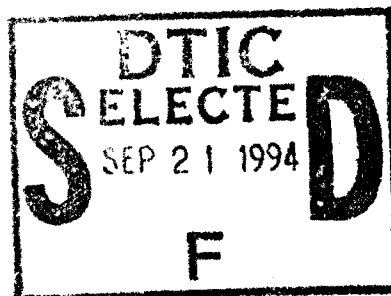


AD-A284 639



USACERL Special Report EC-94
September 1994

Environmental Compliance
Assessment System (ECAS)
North Carolina Supplement



Environmental Compliance Assessment System (ECAS) North Carolina Supplement

U.S. Army

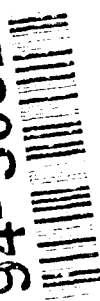
In response to the growing number of environmental laws and regulations worldwide, the U.S. Army has adopted an environmental compliance program that identifies compliance problems before they are cited as violations by the U.S. Environmental Protection Agency (USEPA).

Reproduced From
Best Available Copy

Beginning in 1985, Major Army Commands (MACOMs) were required to conduct comprehensive environmental assessments at all installations on a 4-year cycle. The installations must also conduct a mid-cycle internal assessment. Because each MACOM was developing a separate assessment system, the Army mandated, through Army Regulation 200-1, one unified Army-wide assessment mechanism. The resulting system combines Federal, Department of Defense (DOD), and Army environmental regulations, along with good management practices and risk-management information, into a series of checklists that show legal requirements and which specific items or operations to review. Each assessment protocol lists a point of contact to help assessors review the checklist items as effectively as possible.

The Environmental Compliance Assessment System (ECAS) manual incorporates existing checklists from USEPA and private industry. The North Carolina Supplement was developed to be used in conjunction with the U.S. ECAS manual, using existing North Carolina state environmental legislation and regulations as well as suggested management practices.

2442
94-30326



REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave Blank)	2. REPORT DATE September 1994	3. REPORT TYPE AND DATES COVERED Final		
4. TITLE AND SUBTITLE Environmental Compliance Assessment System (ECAS) - North Carolina Supplement		5. FUNDING NUMBERS MIPR 1223		
6. AUTHOR(S) Carolyn O'Rourke				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Construction Engineering Research Laboratories (USACERL) P.O. Box 9005 Champaign, IL 61826-9005		8. PERFORMING ORGANIZATION REPORT NUMBER SR EC-94/Final		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Environmental Center (USAEC) ATTN: SFIM-AEC-ECC APG-EA Maryland 21010-5401		10. SPONSORING/MONITORING AGENCY REPORT NUMBER		
11. SUPPLEMENTARY NOTES Copies are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) In response to the growing number of environmental laws and regulations worldwide, the U.S. Army has adopted an environmental compliance program that identifies compliance problems before they are cited as violations by the U.S. Environmental Protection Agency (USEPA). Beginning in 1985, Major Army Commands (MACOMs) were required to conduct comprehensive environmental assessments at all installations on a 4-year cycle. The installations must also conduct a mid-cycle internal assessment. Because each MACOM was developing a separate assessment system, the Army mandated, through Army Regulation 200-1, one unified Army-wide assessment mechanism. The resulting system combines Federal, Department of Defense (DOD), and Army environmental regulations, along with good management practices and risk-management information, into a series of checklists that show legal requirements and which specific items or operations to review. Each assessment protocol lists a point of contact to help assessors review the checklist items as effectively as possible. The Environmental Compliance Assessment System (ECAS) manual incorporates existing checklists from USEPA and private industry. The North Carolina Supplement was developed to be used in conjunction with the U.S. ECAS manual, using existing North Carolina state environmental legislation and regulations as well as suggested management practices.				
14. SUBJECT TERMS Environmental Compliance Assessment System (ECAS) Environmental Compliance Checklists Environmental Law - North Carolina			15. NUMBER OF PAGES 314	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT SAR	

FOREWORD

This work was performed for the U.S. Army Environmental Center (USAEC), under Military Interdepartmental Purchase Request (MIPR) number 1223, *Environmental Compliance Assessment System (ECAS)*, dated 5 August 1993. The USAEC technical monitor was Curt Williams, SFIM-AEC-ECC.

The research was performed by the Environmental Compliance Modeling and Systems Division (EC) of the Environmental Sustainment Laboratory (EL), U.S. Army Construction Engineering Research Laboratories (USACERL). The Principal Investigator was Carolyn O'Rourke, CECER-ECP. Dr. Diane K. Mann, CECER-ECP, is Team Leader. Dr. John T. Bandy is Chief, CECER-EC, and William D. Goran is Chief, CECER-EL.

LTC David J. Rehbein is Commander and Acting Director, USACERL. Dr. Michael J. O'Connor is Technical Director.

Accession For	
NTIS CRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

NOTICE

This manual is intended as general guidance for personnel at certain U.S. Army installations. It is not, nor is it intended to be, a complete treatise on environmental laws and regulations. Neither the U.S. Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information contained herein. For any specific questions about, or interpretations of, the legal references herein, consult appropriate legal counsel.

NORTH CAROLINA SUPPLEMENT

This North Carolina ECAS Supplement contains the protocols necessary for determining compliance with North Carolina environmental rules and regulations. This manual is a supplement to the U.S. ECAS Manual; it does not replace it.

Department of Natural Resources and Community Development (DNR) has the following Divisions responsible for the indicated areas:

- Division of Environmental Management is responsible for comprehensive management of the state's water and air resources. The state has authority to administer the Federal National Pollutant Discharge Elimination System (NPDES) permit program.
- Division of Solid Waste Management is responsible for all aspects of solid and hazardous waste treatment, storage, and disposal. Microbiological waste (the state's designation for infectious or medical waste) is regulated under the solid waste regulations.
- Division of Land Resources is responsible for land protection including the regulation of sedimentation pollution control and dam safety.
- Division of Coastal Management is responsible for the beach access program and the estuarine sanctuary programs, designates areas of environmental concern, and coordinates coastal activities and permits.
- Division of Water Resources is responsible for all water resource programs, including water use.
- Division of Environmental Health is responsible for on-site sewage and public water-supply planning.

Emergency Response Commission must be called in the event of an accidental release covered by Title II of the *Superfund Amendment and Reauthorization Act* (SARA). Contact the Division of Emergency Management, 116 West Jones St., Raleigh NC 27603-1335, (919) 733-3867 or (800) 451-1403 (Title III reports).

Department of Cultural Resources, Division of Archives and History is responsible of cultural and historic preservation activities.

Department of Agriculture, Division of Food and Drug Protection is responsible for the regulation of pesticides.

Wildlife Resource Commission is responsible for the protection of endangered species within the state.

North Carolina Acronyms

Acronyms	Definitions
ATU	aerobic treatment unit
BOD ₅	5-day biochemical oxygen demand
CAA	<i>Clean Air Act</i>
CEC	cation exchange capacity
CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act</i>
CFR	Code of Federal Regulations
CWA	<i>Clean Water Act</i>
DOD	Department of Defense
DOT	Department of Transportation
ECAS	Environmental Compliance and Assessment System
EPM	Environmental Program Management
ESA	<i>Endangered Species Act</i>
FIFRA	<i>Federal Insecticide, Fungicide, and Rodenticide Act</i>
G.S. or GS	General Statutes
GVWR	gross vehicle weight rating
HQW	high quality water
LCID	land clearing and inert debris
LPP	low pressure pipe
MBAS	methylene-blue active substances
MCL	maximum contaminant level
MF	membrane filter
MSW	municipal solid waste
MSWLF	municipal solid waste landfill facility
N.C. or NC	North Carolina
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NCHWMR	North Carolina Hazardous Waste Management Rules
NEPA	<i>National Environmental Policy Act</i>
NFPA	National Fire Prevention Association
NPDES	National Pollutant Discharge Elimination System
ORW	outstanding resource waters
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyls

(continued)

North Carolina Acronyms (continued)

Acronyms	Definitions
PFRP	process to further reduce pathogens
PM	particulate matter
PPBPS	prefabricated, permeable block panel system
RCRA	<i>Resource Conservation and Recovery Act</i>
ROM	reduction in organic matter
SARA	<i>Superfund Amendment and Reauthorization Act</i>
SDWA	<i>Safe Drinking Water Act</i>
SIC	standard industrial classification
SQG	small quantity generator
TSCA	<i>Toxic Substances Control Act</i>
TSD	treatment, storage, and disposal
TSDF	treatment, Storage, and Disposal Facility
TSS	total suspended solids
U.S. ECAS	U. S. Environmental Compliance Assessment System
USEPA	U. S. Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound

Abbreviations

C	Celsius	mgd	million gallons per day
cm	centimeter	μg	microgram
cm ²	square centimeter	μm	micrometer
F	Fahrenheit	min	minute
ft	feet	mo	month
ft ²	square feet	mm	millimeter
ft ³	cubic feet	mm Hg	millimeters of Mercury
g	gram	mrem	millirem
gal	gallons	MW	MegaWatt
gpd	gallons per day	NTU	nephelometric turbidity unit
gpm	gallons per minute	pCi	picoCurie
gr	grain	ppm	parts per million
gr/dscf	grain/dry standard cubic foot	ppmv	parts per million by volume
h	hour	psi	pounds per square inch
in.	inch	psia	pounds per square inch absolute
J	Joule	psig	pounds per square inch gauge
kg	kilogram	qt	quart
kPa	kiloPascal	s	second
kW	kiloWatt	V	volt
L	liter		
lb	pound		
m	meter		
m ²	square meter		
m ³	cubic meter		
mi	mile		
mg	milligram		

Chemicals

CO	carbon monoxide
CO ₂	carbon dioxide
NO ₂	nitrogen dioxide
O ₃	ozone
SO ₂	sulfur dioxide

METRIC CONVERSION TABLE

The following conversion table may be used throughout this manual to convert the measures stated in U.S. units to their approximate metric equivalents.

1 in.	=	25.4 mm
1 ft	=	0.3048 m
1 kip	=	4448 N
1 psi	=	6.89 kPa
1 psi	=	89.300 g/cm ²
1 lb	=	0.453 kg
1 lb/h	=	0.126 g/s
1 cu ft	=	0.028 m ³
1 mi	=	1.61 km
1 ft ²	=	0.093 m ²
1 gal	=	3.78 L
°F	=	(°C + 17.78) x 1.8
°C	=	0.55 (°F - 32)
1 yd	=	0.9144 m
1 Btu/lb	=	0.556 cal/g



SECTION 1

CLEAN AIR ACT (CAA)

North Carolina Supplement

SECTION 1
CLEAN AIR ACT (CAA)
North Carolina Supplement

Definitions

These definitions were obtained from the following sections of the North Carolina Administrative Code (NCAC):

- NCAC 2D.0101
 - NCAC 2D.0535
 - NCAC 2D.0537(a)
 - NCAC 2D.0538(a)
 - NCAC 2D.0602
 - NCAC 2D.0901
 - NCAC 2D.0925(a)
 - NCAC 2D.0926(a)
 - NCAC 2D.0927(a)
 - NCAC 2D.0928(a)
 - NCAC 2D.0930(e)(13)
 - NCAC 2D.0931(a)
 - NCAC 2D.0932(a)
 - NCAC 2D.0933(a)
 - NCAC 2D.0936(a)
 - NCAC 2D.0938(a)
 - NCAC 2D.0945(a)
 - NCAC 2D.1003
 - NCAC 2D.1303.
-
- *Air Pollution* - particulate matter, dust, fumes, gas, mist, smoke, vapor, or any other air contaminant. Water vapor is not considered an air pollutant.
 - *Ambient Air* - that portion of the atmosphere outside of buildings and other enclosed structures, stacks, or ducts, and which surrounds human, animal or plant life, or property.
 - *Asphalt* - a dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) in which the predominating constituents are bitumens which occur in nature as such or which are obtained as residue in refining petroleum.
 - *Average Daily Throughput* - annual throughput of gasoline divided by 312 days/yr.
 - *Bottom Filling* - the filling of a tank truck or stationary storage tank through an opening that is flush with the tank bottom.
 - *Bulk Gasoline Plant* - a gasoline storage and distribution facility which has an average daily throughput of less than 20,000 gal [75,708.24 L] of gasoline and which usually receives gasoline from bulk termi-

nals by trailer transport, stores it in tanks, and subsequently dispenses it via account trucks to local farms, businesses, and service stations.

- *Bulk Gasoline Terminal* - breakout tanks of an interstate oil pipeline facility, or a gasoline storage facility which usually receives gasoline from refineries primarily by pipeline, ship, or barge, and delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by tank truck, and has an average daily throughput of more than 20,000 gal [75,708.24 L] of gasoline.
- *Cartridge Filter* - perforated cannisters containing filtration paper and/or activated carbon that are used in a pressurized system to remove solid particles and fugitive dyes from soil-laden solvent, together with the piping and ductwork used in the installation of this device.
- *Cold Cleaning* - the batch process of cleaning and removing soils from metal surfaces by spraying, brushing, flushing, or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition.
- *Condensate* - hydrocarbon liquid separated from natural gas which condenses due to changes in the temperature and/or pressure and remains liquid at standard conditions.
- *Construction* - any physical change, including fabrication, erection, installation, change in method of operation, or modification, of a facility, source, or air pollution control equipment.
- *Containers and Conveyors of Solvent* - piping, ductwork, pumps, storage tanks, and other ancillary equipment that are associated with the installation and operation of washers, dryers, filters, stills, and settling tanks.
- *Control Device* - equipment (fume incinerator, adsorber, absorber, scrubber, filter media, cyclone, electrostatic precipitator, or the like) used to destroy or remove air pollutant(s) prior to discharge to the ambient air.
- *Conveyorized Degreasing* - the continuous process of cleaning and removing soils from metal surfaces by operating with either cold or vaporized solvents.
- *Crude Oil* - a naturally occurring mixture which consists of hydrocarbons and/or sulfur, nitrogen, and/or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.
- *Custody Transfer* - the transfer of produced crude oil and/or condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipeline or any other forms of transportation.
- *Cutback Asphalt* - asphalt cement which has been liquefied by blending with petroleum solvents (diluent). Upon exposure to atmospheric conditions, the diluents evaporate, leaving the asphalt cement to perform its function.
- *Delivery Vessel* - tank trucks or trailers equipped with a storage tank and used for the transport of gasoline from sources or supply to stationary storage tanks of gasoline dispensing facilities.
- *Director* - the Director of the Division of Environmental Management unless otherwise specified.

- *Drycleaning* - a process for the cleaning of textiles and fabric products in which articles are washed in a nonaqueous solution (solvent) and then dried by exposure to a heated air stream.
- *Drycleaning Facility* - any facility engaged in the cleaning of fabrics in an essentially nonaqueous solvent by means of one or more washes in solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. The facility includes, but is not limited to, any washer, dryer, filter and purification systems, waste disposal systems, holding tanks, pumps, and attendant piping and valves.
- *Dryer* - a machine used to remove petroleum solvent from articles of clothing or other textile or leather goods, after washing and removing of excess petroleum solvent, together with the piping and ductwork used in the installation of this device.
- *Emission* - the release or discharge, whether directly or indirectly, of any air pollutant into the ambient air from any source.
- *Emission Standard* - a regulation (or portion thereof) setting forth an allowable rate of emissions, level of opacity, or prescribing equipment or fuel specifications that result in control of air pollution emissions.
- *Emulsified Asphalt* - an emulsion of asphalt cement and water which contains a small amount of an emulsifying agent; a heterogeneous system containing two normally immiscible phases (asphalt and water) in which the water forms the continuous phase of the emulsion, and minute globules of asphalt form the discontinuous phase.
- *Excess Emissions* - emissions of an air pollutant in excess of an emission standard.
- *External Floating Roof* - a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck which rests upon and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.
- *Facility* - all of the pollutant emitting activities that are located on one or more contiguous or adjacent properties and that are under the control of the same person or persons under common control.
- *Flexographic Printing* - the application of words, designs, and pictures to a substrate by means of a roll printing technique in which both the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastometric materials.
- *Freeboard Height* - for vapor degreasers, the distance from the top of the vapor zone to the top of the degreaser tank. For cold cleaners, freeboard height means the distance from liquid solvent level in the degreaser tank to the top of the tank.
- *Freeboard Ratio* - the freeboard height divided by the width of the degreaser.
- *Fuel Burning Equipment* - equipment whose primary purpose is the production of energy or power from the combustion of any fuel. The equipment is generally used for, but not limited to, heating water, generating or circulating steam, heating air as in warm air furnace, or furnishing process heat by transferring energy by fluids or through process vessel walls.
- *Garbage* - any animal and vegetable waste resulting from the handling, preparation, cooking, and serving of food.

- *Gasoline* - any petroleum distillate having a Reid vapor pressure of 4 psia or greater.
- *Gasoline Dispensing Facility* - any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks.
- *Gasoline Service Station* - any gasoline dispensing facility where gasoline is sold to the motoring public from stationary storage tanks.
- *Heavy-duty Vehicle* - a motor vehicle which is designed primarily for:
 1. transportation of property and has a gross vehicle weight rating (GVWR) of more than 8500 lb [3855.54 kg]
 2. transportation of persons and has a capacity of more than 12 persons
 3. use as a recreational motor vehicle, which is designed primarily to provide temporary or permanent living quarters for travel, camping, or other recreational use and has a GVWR of more than 8500 lb [3855.54 kg],
- *Hydrocarbon* - any organic compound of carbon and hydrogen only.
- *Incinerator* - a device designed to burn solid, liquid, or gaseous waste material.
- *Incoming Vapor Balance System* - a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading tank truck or trailer and a receiving stationary storage tank such that vapors displaced from the receiving stationary storage tank are transferred to the tank truck or trailer being unloaded.
- *Internal Floating Roof* - a cover or roof in a fixed roof tank which rests upon or is floated upon the petroleum liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.
- *Light-duty Vehicle* - a motor vehicle which is designed primarily for:
 1. transportation of property and has a GVWR of 8500 lb [3855.54 kg] or less
 2. transportation of persons and has a capacity of 12 persons or less.
- *Liquid-mounted Seal* - a primary seal mounted so the bottom of the seal covers the liquid surface between the tank shell and the floating roof.
- *Malfunction* - any unavoidable failure of air pollution control equipment, process equipment, or process to operate in a normal and usual manner that results in excess emissions. Excess emissions during periods of routine startup and shutdown of process equipment are not considered to be a malfunction. Failures caused entirely or in part by poor maintenance, careless operations or in any other upset condition within the control of the emission source are not considered a malfunction.
- *Medical Devices* - instruments, apparatus, implements, machines, implants, in vitro reagents, contrivances, or other similar or related articles including their components, parts, and accessories, intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals, or to affect the structure or any function of the body of man or other animals.
- *Mercury* - the element mercury, including mercury in particulates, vapors, aerosols, and compounds. Any associated elements are excluded from this definition.

- *Motor Vehicle* - any self-propelled vehicle used for transporting property or persons.
- *Motorcycle* - any motor vehicle having a seat or saddle for the use of the rider and designed to travel on not more than three wheels in contact with the ground.
- *Opacity* - that property of a substance tending to obscure vision, measured in terms of percent obscuration.
- *Open Burning* - any fire whose products of combustion are emitted directly into the outdoor atmosphere without passing through a stack or chimney, approved incinerator, or other similar device.
- *Open Top Vapor Degreasing* - the batch process of cleaning and removing soils from metal surfaces by condensing hot solvent vapor on the colder metal parts.
- *Organic Material* - a chemical compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.
- *OSHA* - the U.S. Occupational Safety and Health Administration; in North Carolina (NC), the NC Labor Department has delegation of OSHA programs.
- *Outgoing Vapor Balance System* - a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading stationary storage tank and a receiving tank truck or trailer such that vapors displaced from the receiving tank truck or trailer are transferred to the stationary storage tank being unloaded.
- *Oxygenated Gasoline* - gasoline with an oxygen content of not less than 2.7 percent by weight.
- *Packaging Rotogravure Printing* - printing with a gravure press upon paper, paper board, metal foil, plastic film, and other substrates, which are, in subsequent operations, formed into containers and labels for articles to be sold.
- *Particulate Matter* - any material, except uncombined water, that exists in a finely divided form as a liquid or solid at standard conditions.
- *Penetrating Prime Coat* - an application of low-viscosity liquid asphalt to an absorbent surface. It is used to prepare an untreated base for an asphalt surface. The prime penetrates the base and plugs the voids, hardens the top, and helps bind it to the overlying asphalt course. It also reduces the necessity of maintaining an untreated base course prior to placing the asphalt pavement.
- *Perceptible Leaks* - any petroleum solvent vapor or liquid leaks that are conspicuous from visual observation or that bubble after application of a soap solution, such as pools or droplets of liquid, open containers of solvent, or solvent laden waste standing open to the atmosphere.
- *Petroleum Liquids* - crude oil, condensate, and any finished or intermediate products manufactured or extracted in a petroleum refinery.
- *Petroleum Solvent* - organic material produced by petroleum distillation comprising a hydrocarbon range of 8 to 12 carbon atoms per organic molecule that exists as a liquid under standard conditions.

- *Petroleum Solvent Drycleaning* - a drycleaning facility that uses petroleum solvent in a combination of washers, dryers, filters, stills, and settling tanks.
- *PM₁₀* - particulate matter with an aerodynamic diameter less than or equal to a nominal 10 mm.
- *Printing* - the formation of words, designs, and pictures, usually by a series of application rolls, each with only partial coverage.
- *Publication Rotogravure Printing* - printing upon paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, and other types of printed materials.
- *Refuse* - any garbage, rubbish, or trade waste.
- *Reid Vapor Pressure* - the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids, except liquefied petroleum gases, as determined by American Society for Testing and Materials, Part 17, 1973, D-323-72 (reapproved 1977).
- *Roll Printing* - the application of words, designs, and pictures to a substrate by means of hard rubber or steel rolls.
- *Rubbish* - solid or liquid wastes from residences, commercial establishments, or institutions.
- *Rural Area* - an area which is primarily devoted to, but not necessarily limited to, the following uses: agriculture, recreation, wildlife management, state park, or any area of natural cover.
- *Salvage Operation* - any business, trade, or industry engaged in whole or in part in salvaging or reclaiming any product or material, including, but not limited to, metal, chemicals, motor vehicles, shipping containers, or drums.
- *Settling Tank* - a container which gravimetrically separates oils, grease, and dirt from petroleum solvent, together with the piping and ductwork used in the installation of the device.
- *Shutdown* - the cessation of the operation of any source for any purpose.
- *Smoke* - small gas-borne particles resulting from incomplete combustion, consisting predominantly of carbon, ash, and other burned or unburned residue of combustible materials that form a visible plume.
- *Solvent* - organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents.
- *Solvent Filter* - a discrete solvent filter unit containing a porous medium which traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.
- *Solvent Metal Cleaning* - the process of cleaning soils from metal surfaces by cold cleaning or open top vapor degreasing or conveyORIZED degreasing.
- *Solvent Recovery Dryer* - a class of drycleaning dryers that employs a condenser to condense and recover solvent vapors evaporated in a closed-loop stream of heated air, together with the piping and ductwork used in the installation of this device.

- *Source* - any stationary article, machine, process equipment, or other contrivance or any tank truck, trailer, or railroad tank car from which air pollutants emanate or are emitted, either directly or indirectly.
- *Standard Conditions* - a temperature of 68 °F [20 °C] and pressure of 29.92 in. of mercury.
- *Startup* - the commencement of operation of any source which has shutdown or ceased operation for a period of time sufficient to cause temperature, pressure, process, chemical, or pollution control device imbalance which would result in excess emission.
- *Stationary Source* - the total plant site, including all emissions (stacks, ducts, vents, openings, fugitives, etc.) to the atmosphere within the property boundary.
- *Still* - a device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device.
- *Submerged Fill Pipe* - any fill pipe with a discharge opening which is entirely submerged when the pipe normally used to withdraw liquid from the tank can no longer withdraw any liquid, or which is entirely submerged when the level of the liquid is 6 in. [15.24 cm] above the bottom of the tank.
- *Submerged Filling* - the filling of a tank truck or stationary tank through a pipe or hose whose discharge opening is entirely submerged when the pipe normally used to withdraw liquid from the tank can no longer withdraw any liquid, or whose discharge opening is entirely submerged when the liquid level is 6 in. [15.24 cm] above the bottom of the tank.
- *Substrate* - the surface to which a coating is applied.
- *Total Suspended Particulate* - any finely divided solid or liquid material, except water in uncombined form, that is or has been airborne.
- *Trade Wastes* - all solid, liquid, or gaseous waste materials or rubbish resulting from combustion, salvage operations, building operations, or the operation of any business, trade, or industry including, but not limited to, plastic products, paper, wood, glass, metal, paint, grease, oil, and other petroleum products, chemicals, and ashes.
- *Truck Tank* - the storage vessels of trucks or trailers used to transport gasoline from sources of supply to stationary storage tanks of bulk gasoline terminals, bulk gasoline plants, gasoline dispensing facilities, and gasoline service stations.
- *Truck Tank Vapor Collection System* - any piping, hoses, and devices on the truck tank used to collect and route gasoline vapors in the tank to or from the bulk gasoline terminal, bulk gasoline plant, gasoline dispensing facility, or gasoline service station vapor control system or vapor balance system.
- *True Vapor Pressure* - the equilibrium partial pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, *Evaporation Loss from Floating Roof Tanks*, 1962.
- *Vapor Balance System* - a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.

- *Vapor Collection System* - a vapor transport system which uses direct displacement by the liquid loaded to force vapors from the tank into a vapor control system.
- *Vapor Control System* - a system which prevents release to the atmosphere of at least 90 percent by weight of organic compounds in the vapors displaced from a tank during the transfer of gasoline.
- *Vapor-mounted Seal* - a primary seal mounted so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank shell, the liquid surface, and the floating roof.
- *Volatile Organic Compound (VOC)* - any compound of carbon that is photochemically reactive, excluding the following: carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, methane, ethane, trichlorofluoromethane (chlorofluorocarbon 11), dichlorofluoromethane (chlorofluorocarbon 12), chlorodifluoromethane (chlorofluorocarbon 22), trifluoromethane (fluorocarbon 23), trichlorotrifluoroethane (chlorofluorocarbon 113), dichlorotetrafluoroethane (chlorofluorocarbon 114), chloropentafluoroethane (chlorofluorocarbon 115), 1,1,1-trichloroethane (methyl chloroform), dichloromethane (methylene chloride), dichlorotrifluoroethane (hydrochlorofluorocarbon 123), tetrafluoroethane (hydrofluorocarbon 134a), dichlorofluoroethane (hydrochlorofluorocarbon 141b), and chlorodifluoroethane (hydrochlorofluorocarbon 142b).
- *Washer* - a machine which agitates fabric articles in a petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device.

CLEAN AIR ACT (CAA)
GUIDANCE FOR NORTH CAROLINA CHECKLIST USERS

APPLICABILITY:	REFER TO CHECKLIST ITEMS:
Permits Required	1-1 through 1-3
Air Pollution Episodes	1-4
Ambient Air Quality	1-5
Particulates from Fuel Burning Indirect Heat Exchangers	1-6
Particulates from Wood Burning Indirect Heat Exchangers	1-7
Sulfur Dioxide Emissions from Combustion Sources	1-8
VOC - Miscellaneous Emissions	1-9 through 1-11
Nitrogen Dioxide and Nitrogen Oxides Emissions	1-12
Open Burning	1-13
Visible Emissions	1-14
Odorous Emissions	1-15
Conical Incinerators	1-16
Excess Emissions Reporting	1-17
Bulk Gasoline Plants	1-18
Bulk Gasoline Terminals	1-19
Gasoline Tank Trucks and Vapor Collection Systems	1-20 through 1-22
Gasoline Service Stations Stage I	1-23
Solvent Metal Cleaning	1-24 through 1-26
Cutback Asphalt	1-27
Petroleum Liquid Storage in External Floating Roof Tanks	1-28 and 1-29
Petroleum Liquid Storage in Fixed Roof Tanks	1-30
Graphic Arts	1-31

(continued)

CLEAN AIR ACT (CAA)
GUIDANCE FOR NORTH CAROLINA CHECKLIST USERS
(continued)

APPLICABILITY:

**REFER TO
CHECKLIST
ITEMS:**

Perchloroethylene Drycleaning

1-32

Petroleum Drycleaning

1-33

Motor Vehicle Emissions

1-34

Incinerators

1-35 through 1-37

Oxygenated Gasoline Standard

1-38

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
PERMITS REQUIRED	
<p>1-1. Installations that operate sources which have an ambient air quality or emission control standard are required to obtain a permit (NCAC 2H.0601 (a) and (c)).</p>	<p>Determine if the installation operates any of the following types of sources or activities, which are exempt from the permit requirement:</p> <ul style="list-style-type: none"> - air conditioning or comfort ventilation systems which do not transport, remove, or exhaust product or byproduct to the atmosphere - combustion sources serving heating systems which provide comfort heat for residences - laboratory equipment used for chemical or physical analysis - nonstationary internal combustion engines and vehicles - equipment which emits only nitrogen, oxygen, carbon dioxide, and/or water vapor - maintenance or repair of existing equipment that does not result in an increase to the emission of air pollutants - replacement of existing equipment with like equipment of same size, type, and function that does not result in an increase to the emission of air pollutants and that is described by the current permit, including the application, except for characteristics that could not affect pollution control, for example, serial numbers - smudge pots for orchards or small outdoor heating devices to prevent freezing of plants - fuel burning equipment firing exclusively gaseous fuel with the total heat input rating of 250 million British thermal units (MBtu)/h or less - fuel burning equipment firing exclusively No. 1 or No. 2 fuel oil with the total heat input rating of 100 MBtu/h or less - fuel burning equipment firing a mixture of gaseous fuel, No. 1 fuel oil or No. 2 fuel oil, in any proportion, with the total heat input rating of 100 MBtu/h or less. <p>Verify that the installation has obtained the required permit for sources which have an ambient air quality or emission control standard.</p>
<p>1-2. Installations are required to obtain a permit before constructing or modifying complex sources (NCAC 2D.0802 (a)(1) and (2)).</p>	<p>Verify that the installation has obtained a permit from the Commission before constructing or modifying any facility which results in one of the following:</p> <ul style="list-style-type: none"> - open parking lots having 1500 or more vehicle capacity, and parking decks and parking garages, having capacity for 750 or more vehicles - subdivisions, housing developments, apartment complexes, and trailer courts having 500 or more units resulting in a population density of 7680/mi² (12 persons per acre) or more.

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

**REGULATORY
REQUIREMENTS:**

1-3. Installations are required to obtain a permit before emitting toxic air pollutants into the atmosphere (NCAC 2H.0610(b), (g)(1), (2), (3), (5), (7), (8), and (h)).

REVIEWER CHECKS:

Determine if the installation emits any of the following types of toxic air pollutants, which are exempt from the permit requirement:

- the noncommercial use of household cleaners, household chemicals, or household fuels in private residences
- asbestos demolition and renovation projects that comply with national emission standards for hazardous air pollutants and that are being done by person accredited by the Department of Environment, Health, and Natural Resources under the *Asbestos Hazard Emergency Response Act*
- emissions from gasoline dispensing facility or gasoline service station operations performed as a part of petroleum distribution to the ultimate consumer, that comply with the following regulations:
 - Petroleum Liquid Storage in Fixed Roof Tanks
 - Gasoline Service Stations Stage I
 - Gasoline Truck Tanks and Vapor Collection Systems
 - Petroleum Liquid Storage in External Floating Roof Tanks
- that receive gasoline from bulk gasoline plants or bulk gasoline terminals that comply with the following regulations:
 - Petroleum Liquid Storage in Fixed Roof Tanks
 - Bulk Gasoline Plants
 - Bulk Gasoline Terminals
 - Gasoline Truck Tanks and Vapor Collection Systems
 - Petroleum Liquid Storage in External Floating Roof Tanks via tank trucks that comply with Gasoline Truck Tanks and Vapor Collection Systems
- manholes and customer vents of wastewater collection systems.

Verify that the installation has obtained the required permit before emitting into the atmosphere any of the toxic air pollutants listed in Appendix 1-1, Parts A and B.

Verify that the installation has obtained the required permit before emitting toxic air pollutants in excess of the amounts listed in Appendix 1-2.

Verify that the installation meets all permit requirements.

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

**REGULATORY
REQUIREMENTS:**

REVIEWER CHECKS:

**AIR POLLUTION
EPISODES**

1-4. Installations are required to develop an emission reduction plan to be implemented in the event of an air pollution episode (NCAC 2D.0303 and 2D.0304).

Verify that the emission reduction plan contains detailed steps that will be taken by the installation to reduce the emission of air pollutants into the outdoor atmosphere during each stage of an air pollution episode.

(NOTE: The three stages of air pollution episode are: Alert, Warning, and Emergency.)

**AMBIENT AIR
QUALITY**

1-5. Installations are required to meet specific ambient air quality standards (NCAC 2D.0402 through 2D.0405 and 2D.0407 through 2D.0409).

SULFUR OXIDES

Verify that the following standards for sulfur oxides are met:

- 80 $\mu\text{g}/\text{m}^3$ [0.03 ppm] annual arithmetic mean
- 365 $\mu\text{g}/\text{m}^3$ [0.14 ppm] maximum 24-h concentration not to be exceeded more than once per year
- 1300 $\mu\text{g}/\text{m}^3$ [0.50 ppm] maximum 3-h concentration not to be exceeded more than once per year.

(NOTE: Sampling and analysis are to be in accordance with procedures in Appendix A of 40 Code of Federal Regulations (CFR) 50 or equivalent methods established under 40 CFR 53.)

TOTAL SUSPENDED PARTICULATE MATTER

Verify that the following standards for total suspended particulate matter are met:

- 75 $\mu\text{g}/\text{m}^3$ annual geometric mean
- 150 $\mu\text{g}/\text{m}^3$ maximum 24-h concentration not to be exceeded more than once per year.

(NOTE: Sampling and analysis are to be in accordance with procedures in Appendix B of 40 CFR 50 or equivalent methods established under 40 CFR 53.)

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-5. (continued)	<p>CARBON MONOXIDE</p> <p>Verify that the following standards for carbon monoxide are met:</p> <ul style="list-style-type: none"> - 9 ppm (10 mg/m³) maximum 8-h average concentration not to be exceeded more than once per year - 35 ppm (40 mg/m³) maximum 1-h average concentration not to be exceeded more than once per year. <p>(NOTE: Sampling and analysis are to be in accordance with procedures in Appendix C of 40 CFR 50 or equivalent methods established under 40 CFR 53.)</p> <p>(NOTE: An 8-h average is considered valid if at least 75 percent of the hourly averages for the 8-h period are available. In the event that only 6 or 7 hourly averages are available, the 8-h average is computed on the basis of the hours available using 6 or 7 as the divisor.)</p> <p>(NOTE: When summarizing data for comparison with the standards, averages are stated to one decimal place. Comparison of the data with the levels of the standards is made in terms of integers with fractional parts of 0.5 or greater rounding up.)</p> <p>OZONE</p> <p>Verify that the air quality standard for ozone, 0.12 ppm (235 µg/m³), is maintained.</p> <p>(NOTE: The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm (235 µg/m³) is equal to or less than 1.0, as determined by Appendix H of 40 CFR 50 or equivalent methods established under 40 CFR 53.)</p> <p>NITROGEN DIOXIDE</p> <p>Verify that the ambient air quality standard for nitrogen dioxide, 0.053 ppm (100 µg/m³) annual arithmetic mean, is maintained.</p> <p>(NOTE: Sampling and analysis are to be in accordance with procedures in Appendix F of 40 CFR Part 50 or equivalent methods established under 40 CFR Part 53.)</p> <p>(NOTE: The standards are attained when the annual arithmetic mean concentration in a calendar year is less than or equal to 0.053 ppm [100 µg/m³] rounded to three decimal places (fractional parts, equal to or greater than 0.0005 ppm [1.0 µg/m³] are rounded up). To demonstrate attainment, an annual mean must be based on hourly data that are at least 75 percent complete or on data derived from manual methods that are at least 75 percent complete for the scheduled sampling days in each calendar quarter.)</p>

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-5. (continued)	<p>LEAD</p> <p>Verify that the ambient air quality standard for lead and its compounds, 1.5 µg/m³, maximum arithmetic mean over a calendar quarter, is maintained.</p> <p>PARTICULATE MATTER</p> <p>Verify that the following standards for particulate matter are met:</p> <ul style="list-style-type: none"> - 150 µg/m³, 24-h average concentration - 50 µg/m³, annual arithmetic mean. <p>(NOTE: These standards are attained when the expected number of days per calendar year with a 24-h average concentration above 150 µg/m³ is equal to or less than 1 or when the expected annual arithmetic mean concentration is less than or equal to 50 µg/m³, as determined in accordance with Appendix K of 40 CFR Part 50.)</p> <p>(NOTE: For the purpose of determining attainment of the standards, particulate matter is to be measured as PM₁₀ (particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers) by a reference method based on Appendix J of 40 CFR Part 50 and designated in accordance with 40 CFR 53, or an equivalent method designated in accordance with 40 CFR 53.)</p>
<p>PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS</p> <p>1-6. Installations are required to restrict the emission of particulates from fuel burning indirect heat exchangers (NCAC 2D.0503(a) and (b)).</p>	<p>Verify that the emission of particulate matter from the combustion of a fuel that is discharged from any stack or chimney into the atmosphere does not exceed the limits outlined in Appendix 1-3, Part A.</p> <p>(NOTE: This applies to installations in which fuel is burned for the purpose of producing heat or power by indirect heat transfer. Fuels include coal, coke, lignite, peat, natural gas, and fuel oils, but exclude wood and refuse not burned as a fuel. When any refuse, products or by-products of a manufacturing process are burned as a fuel rather than refuse, or in conjunction with any fuel, this allowable emission limit applies.)</p>

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>PARTICULATES FROM WOOD BURNING INDIRECT HEAT EXCHANGERS</p> <p>1-7. Installations are required to restrict the emission of particulates from wood burning indirect heat exchangers (NCAC 2D.0504(a) and (b)).</p> <p>SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES</p> <p>1-8. Installations are required to restrict the emission of SO₂ from combustion sources (NCAC 2D.0516(a)).</p> <p>VOC - MISCELLANEOUS EMISSIONS</p> <p>1-9. Installations that store VOCs in containers are required to meet specific requirements (NCAC 2D.0518(a) and (b)).</p>	<p>Verify that the emission of particulate matter from the combustion of wood does not exceed the limits outlined in Appendix 1-3, Part B.</p> <p>(NOTE: This applies to installations in which wood is burned for the primary purpose of producing heat or power by indirect heat transfer.)</p> <p>Verify that the emission of sulfur dioxide from any source of combustion that is discharged from any vent, stack, or chimney does not exceed 2.3 lb [1.04 kg] of SO₂ per MBtu input.</p> <p>(NOTE: SO₂ formed by the combustion of sulfur in fuels, wastes, ores, and other substances are to be included when determining compliance with this standard. SO₂ formed or reduced as a result of treating flue gases with sulfur trioxide or other materials is also to be accounted for when determining compliance with this standard.)</p> <p>(NOTE: This applies to all sources of VOC emissions for which no other VOC emission control standards are applicable.)</p> <p>Determine if the installation stores or holds either of the following in any stationary tank, reservoir, or other container with a capacity greater than 50,000 gal [189,270.60 L]:</p> <ul style="list-style-type: none"> - liquid compound containing carbon and hydrogen - liquid compound containing carbon and hydrogen in combination with any other element which has a vapor pressure of 1.5 psia or greater under actual storage conditions.

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>1-9. (continued)</p>	<p>Verify that the stationary tank, reservoir, or other container meets one of the following requirements:</p> <ul style="list-style-type: none"> - is a pressure tank, capable of maintaining working pressures sufficient at all times to prevent vapor gas loss into the atmosphere - is designed and equipped with one of the following vapor loss control devices: <ul style="list-style-type: none"> - a floating pontoon, double deck type floating roof or internal pan type floating roof equipped with closure seals to enclose any space between the cover's edge and compartment wall (not allowed if the compound is a photochemically reactive material having a vapor pressure of 11.0 psia or greater under actual storage conditions) - a vapor recovery system or other equipment or means of air pollution control, as approved by the Director, which reduces the emission of organic materials into the atmosphere by at least 90 percent by weight. <p>(NOTE: All tank gauging or sampling devices are to be gas-tight except when tank gauging or sampling is taking place.)</p>
<p>1-10. Installations are required to meet specific requirements when loading VOCs (NCAC 2D.0518(c)).</p> <p>1-11. Installations are required to restrict the emission of photochemically reactive solvents (NCAC 2D.0518(d)).</p>	<p>Verify that installation loading in any one day more than 20,000 gal [75,708.24 L] of any VOC into any tank truck, trailer, or railroad tank car from any loading facility, uses submerged loading through boom loaders that extend down into the compartment being loaded or by other methods approved by the Director.</p> <p>Verify that the installation does not discharge from all sources at any one site more than a total of 40 lb [18.14 kg] of photochemically reactive solvent into the atmosphere in any one day, from any article, machine, equipment, or other contrivance, unless the discharge has been reduced by at least 85 percent by weight.</p> <p>(NOTE: Photochemically reactive solvents are defined in Appendix 1-4.)</p>
<p>NITROGEN DIOXIDE AND NITROGEN OXIDES EMISSIONS</p> <p>1-12. Installations are required to restrict the emission of nitrogen dioxide and nitrogen oxides (NCAC 2D.0519).</p>	<p>Verify that the installation does not emit nitrogen dioxide in excess of the following:</p> <ul style="list-style-type: none"> - 0.6 lb/MBtu of heat input from any oil or gas-fired boiler with a capacity of 250 MBtu/h or more - 1.3 lb/MBtu of heat input from any coal-fired boiler with a capacity of 250 MBtu/h or more.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-12. (continued)	<p>Verify that the installation does not emit nitrogen oxides in excess of the following:</p> <ul style="list-style-type: none"> - 0.8 lb/MBtu of heat input from any oil or gas-fired boiler with a capacity of 250 MBtu/h or more - 1.8 lb/MBtu of heat input from any coal-fired boiler with a capacity of 250 MBtu/h or more. <p>(NOTE: The emission limit for a boiler that burns both coal and oil or gas in combination is determined by the Department.)</p>
OPEN BURNING	
1-13. Installations are prohibited from engaging in open burning (NCAC 2D.0520(c) and (d) (6) through (12)).	<p>Determine if the installation engages in any of the following types of open burning, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - fires purposely set to agricultural lands for disease and pest control and other accepted agricultural or wildlife management practices acceptable to the Commission - fires purposely set to forest lands for forest management practices acceptable to the Division of Forestry and the Commission - fires purposely set in rural areas for rights-of-way maintenance only in instances where there are no other practicable or feasible methods of disposal and under conditions acceptable to the Commission - camp fires and fires used solely for outdoor cooking and other recreational purposes, or for commercial occasions, or for human warmth and comfort - open burning for land clearing or right-of-way maintenance in areas other than those zoned solely residential or used primarily for residential purposes, if the following conditions are met: <ul style="list-style-type: none"> - prevailing winds at the time of burning are away from any city, town, or built-up area - the location of the burning is at least 1000 ft [304.80 m] from any dwelling located in a predominantly residential area other than a dwelling structure located on the property on which the burning is done - the amount of dirt on the material being burned is minimized - heavy oils, asphaltic materials, items containing natural or synthetic rubber, or any materials other than plant growth are not burned - initial burning generally begins only between 9:00 a.m. and 3:00 p.m. on one day and 9:00 a.m. on the following day, unless otherwise allowed by the air pollution control agency having jurisdiction - fires for the disposal of dangerous materials where there is no alternative method of disposal, and burning is conducted in accordance with procedures acceptable to the Commission.

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>1-13. (continued)</p> <p>VISIBLE EMISSIONS</p> <p>1-14. Installations are required to restrict the visible emissions from existing and new sources (NCAC 2D.0521(b) through (e)).</p> <p>ODOROUS EMISSIONS</p> <p>1-15. Installations are required to restrict odorous emissions (NCAC 2D.0522(a) and (c)).</p> <p>CONICAL INCINERATORS</p> <p>1-16. Installations are required to restrict the emissions from conical incinerators (NCAC 2D.0523(c)).</p>	<p>Verify that the installation does not engage in open burning.</p> <p>(NOTE: This applies to all fuel burning sources and to other processes that may have a visible emission.)</p> <p>Verify that, for sources existing as of 1 July 1971, visible emissions do not exceed 40 percent opacity when averaged over a 6 min period, except that 6 min periods averaging not more than 90 percent opacity occur no more than once in any hour nor more than four times in any 24-h period.</p> <p>Verify that, for sources established after of 1 July 1971, visible emissions do not exceed 20 percent opacity when averaged over a 6 min period, except that 6 min periods averaging not more than 87 percent opacity occur no more than once in any hour nor more than four times in any 24-h period.</p> <p>(NOTE: Installations are not considered in violation of this regulation if the presence of uncombined water is the only reason for failure of an emission to meet these limitations.)</p> <p>Verify that the installation does not allow any source to be operated without employing suitable measures for the control of odorous emissions including, but not limited to, wet scrubbers, incinerators, or other devices approved by the Commission.</p> <p>Verify that the installation does not allow the burning of wood or agricultural waste in a conical incinerator without taking reasonable precaution to prevent air pollutants from becoming airborne.</p>

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-16. (continued)	<p>Verify that the conical incinerator is equipped and maintained with at least the following:</p> <ul style="list-style-type: none"> - an underfire and an overfire forced air system and variable damper which is automatically controlled to ensure the optimum temperature range for the complete combustion of the amount and type of material waste being charged into the incinerator - a temperature recorder for continuously recording the temperature of the exit gas - a feed system capable of delivering the waste to be burned at a sufficiently uniform rate to prevent temperature from dropping below 800 °F [426.67 °C] during normal operation, with the exception of one startup and one shutdown per day.
EXCESS EMISSIONS REPORTING	<p>(NOTE: Any excess emissions that do not occur during startup or shutdown are considered to be a violation of the appropriate regulation, unless the operator can demonstrate that the excess emissions are the result of a malfunction.)</p>
1-17. Installations are required to report excess emissions that occur during malfunctions (NCAC 2D.0535(c), (f) and (g)).	<p>Verify that the installation meets the following criteria in response to the occurrence of excess emissions:</p> <ul style="list-style-type: none"> - the air cleaning device, process equipment, or process is maintained and operated, to the maximum extent practicable, in a manner consistent with good practice for minimizing emissions - repairs are made in an expeditious manner when the emission limits have been exceeded - the amount and duration of the excess emissions, including any bypass, have been minimized to the maximum extent practicable - all practicable steps are taken to minimize the impact of the excess emissions on ambient air quality - if the source is required to have a malfunction abatement plan, it has followed that plan. <p>Verify that the excess emissions are not part of a recurring pattern indicative of inadequate design, operation, or maintenance.</p> <p>Verify that all malfunctions are repaired as expeditiously as practicable.</p>

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>1-17. (continued)</p>	<p>Verify that an installation that operates a source of excess emissions which lasts for more than 4 h and which results from a malfunction, a breakdown of process or control equipment or any other abnormal conditions, meets the following requirements:</p> <ul style="list-style-type: none"> - notifies the Director or his designee of any such occurrence within 24 h of becoming aware of the occurrence and describes: <ul style="list-style-type: none"> - name and location of the facility - the nature and cause of the malfunction or breakdown - the time when the malfunction or breakdown is first observed - the expected duration - an estimated rate of emissions - notifies the Director or his designee immediately when the corrective measures have been accomplished - submits, if requested, to the Director within 15 days after the request a written report which includes: <ul style="list-style-type: none"> - name and location of the facility - identification or description of the processes and control devices involved in the malfunction or breakdown - the cause and nature of the event - time and duration of the violation or the expected duration of the excess emission if the malfunction or breakdown has not been fixed - estimated quantity of pollutant emitted - steps taken to control the emissions and to prevent recurrences and, if the malfunction or breakdown has not been fixed, steps planned to be taken - any other pertinent information requested by the Director.
<p>BULK GASOLINE PLANTS</p> <p>1-18. Installations that operate bulk gasoline plants are required to meet specific operating requirements and equipment standards (NCAC 2D.0926(b) through (m)).</p>	<p>(NOTE: This applies to the unloading, loading, and storage facilities of all bulk gasoline plants and of all tank trucks or trailers delivering or receiving gasoline at bulk gasoline plants, except stationary storage tanks with capacities less than 528 gal [1998.70 L].)</p> <p>Verify that the installation does not transfer gasoline to any stationary storage tanks unless the unloading tank truck or trailer and the receiving stationary storage tank are equipped with an incoming vapor balance system and the receiving stationary storage tank is equipped with a fill line whose discharge opening is flush with the bottom of the tank.</p> <p>Verify that, if the bulk gasoline plant has an average daily gasoline throughput of 4000 gal [15,141.68 L] or more, the installation does not load tank trucks or trailers at the plant unless the unloading stationary storage tank and the receiving tank truck or trailer are equipped with an outgoing vapor balance system and the receiving tank truck or trailer is equipped for bottom filling.</p>

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-18. (continued)	<p>Verify that, if the bulk gasoline plant has an average daily throughput of more than 2500 gal [9463.53 L] but less than 4000 gal [15,141.68 L] located in an area with a housing density exceeding specified limits as described in the following note, the installation does not load any tank truck or trailer at such bulk gasoline plant after 1 November 1996, unless the unloading stationary storage tank and receiving tank truck or trailer are equipped with an outgoing vapor balance system and the receiving tank truck or trailer is equipped for bottom filling.</p> <p>(NOTE: In the counties of Alamance, Buncombe, Cabarrus, Catawba, Cumberland, Davidson, Durham, Forsyth, Gaston, Guilford, Mecklenburg, New Hanover, Orange, Rowan, and Wake, the specified limit on housing density is 50 residences in a square one mile on a side with the square centered on the loading rack at the bulk gasoline plant and with one side oriented in a true North-South direction. In all other counties, the specified limit on housing density is 100 residences per square mile.)</p> <p>Verify the installation does not load tank trucks or trailers at bulk gasoline plants that are not required to use an outgoing vapor balance system, unless one of the following conditions is met:</p> <ul style="list-style-type: none"> - equipment is available at the bulk gasoline plant to provide for submerge filling of each tank truck or trailer - each receiving tank truck or trailer is equipped for bottom filling. <p>Verify that bulk gasoline plants located in nonattainment areas for ozone use an outgoing vapor balance system, regardless of the average daily gasoline throughput.</p> <p>Verify that bulk gasoline plants, tank trucks or trailers that are required to be equipped with a vapor balance system meet the following requirements before transferring gasoline between tank truck or trailer and stationary storage tank:</p> <ul style="list-style-type: none"> - the vapor balance system is in good working order and is connected and operating - tank truck or trailer hatches are closed at all times during loading and unloading operations - the tank truck's or trailer's pressure/vacuum relief valves and hatch covers and the truck tanks or storage tanks or associated vapor and liquid lines are vapor tight during loading or unloading.

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-18. (continued)	<p>Verify that required vapor balance systems consist of the following major components:</p> <ul style="list-style-type: none"> - a vapor space connection on the stationary storage tank equipped with fittings which are vapor tight and will be automatically and immediately closed upon disconnection so as to prevent release of organic material - a connecting pipe or hose equipped with fittings which are vapor tight and will be automatically and immediately closed upon disconnection so as to prevent release of organic material - a vapor space connection on the tank truck or trailer equipped with fittings which are vapor tight and will be automatically and immediately closed upon disconnection so as to prevent release of organic material. <p>Verify that all tanks used for gasoline storage at bulk gasoline plants are painted white or silver at the next scheduled painting or before 1 November 2002, whichever is sooner.</p> <p>Verify that the pressure relief valves on tank trucks or trailers loading or unloading at bulk gasoline plants are set to release at the highest possible pressure, in accordance with state or local fire codes or the National Fire Prevention Association guidelines.</p> <p>Verify that the pressure relief valves on stationary storage tanks are set as follows:</p> <ul style="list-style-type: none"> - 0.5 psi for storage tanks placed in service on or after 1 November 1992 - 0.25 psi for storage tanks existing before 1 November 1992. <p>Verify that the installation does not allow gasoline to be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation.</p> <p>Verify that the installation discontinues the transfer of gasoline under the following circumstances:</p> <ul style="list-style-type: none"> - if any liquid leaks are observed - if any vapor leaks are observed where a vapor balance system is required.

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>BULK GASOLINE TERMINALS</p> <p>1-19. Installations that operate bulk gasoline terminals are required to meet specific operating requirements and equipment standards (NCAC 2D.0927(b) through (g) and (k)).</p>	<p>(NOTE: This applies to bulk gasoline terminals and the appurtenant equipment necessary to load the tank truck or trailer compartments.)</p> <p>Verify that the installation does not load gasoline into any tank truck or trailer from any bulk gasoline terminal unless the following conditions are met:</p> <ul style="list-style-type: none"> - the bulk gasoline terminal is equipped with a vapor control system that prevents the emissions of VOCs from exceeding: <ul style="list-style-type: none"> - 80 mg/L [4.7 gr/gal] of gasoline loaded for control systems installed before 1 December 1992, until 1 December 1995, or the next major modification, whichever occurs first - 35 mg/L [2.1 gr/gal] for control systems installed after 1 December 1992, that are properly installed, in good working order, and in operation - displaced vapors and gases are vented only to the vapor control system or to a flare - a means is provided to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected - all loading and vapor lines are equipped with fittings which make vapor-tight connections and which are automatically and immediately closed upon disconnection. <p>Verify that installations that operate bulk gasoline terminals and the appurtenant equipment necessary to load the tank truck or trailer compartments meet the following conditions:</p> <ul style="list-style-type: none"> - do not allow gasoline to be discarded in sewers or stored in open containers or handled in any manner that would result in evaporation - do not allow the pressure in the vapor collection system to exceed the tank truck or trailer pressure relief settings. <p>Verify that all tanks used for gasoline storage at bulk gasoline terminals are painted white or silver at the next scheduled painting or by 1 December 2002, whichever is sooner.</p> <p>Verify that each external floating roof tank with an inside diameter of 100 ft [30.48 m] or less used to store gasoline is equipped with a self-supporting roof, such as a geodesic dome, at the next time that the tank is taken out of service or by 1 December 2002, whichever occurs first.</p> <p>Verify that all new tanks storing gasoline at a bulk gasoline terminal are equipped with the following when put into service, and that all existing tanks storing gasoline at a bulk gasoline terminal are equipped with the following by 1 December 1995:</p> <ul style="list-style-type: none"> - rim-mounted secondary seals on all external and internal floating roof tanks - gaskets on roof and deck fittings or welded seams where possible - floats in the slotted guide poles with a gasket around the cover of the poles.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-19. (continued)	<p>Verify that, if the installation operates any bulk gasoline terminal that began construction or was in operation before 1 December 1992, the following documentation is submitted to the Department:</p> <ul style="list-style-type: none"> - that the control system meets the limit of 35 mg/L - that the storage tanks are equipped with the following: <ul style="list-style-type: none"> - rim-mounted secondary seals on all external and internal floating roof tanks - gaskets on roof and deck fittings or welded seams where possible - floats in the slotted guide poles with a gasket around the cover of the poles - a schedule by which the bulk gasoline terminal will come into compliance with these requirements by 1 December 1995.
GASOLINE TANK TRUCKS AND VAPOR COLLECTION SYSTEMS	<p>(NOTE: This applies to gasoline truck tanks that are equipped for vapor collection and to vapor control systems at bulk gasoline terminals, bulk gasoline plants, gasoline dispensing facilities, and gasoline service stations that are equipped with vapor balance or vapor control systems.)</p>
1-20. Gasoline truck tanks are required to meet specific requirements (NCAC 2D.0932 (b) and (c)).	<p>Determine if the installation uses gasoline truck tanks.</p> <p>Verify that the gasoline truck tank and its vapor collection system are tested annually.</p> <p>Verify that the gasoline truck tank is not used if it sustains a pressure change greater than 3.0 in. [7.62 cm] of water in 5 min when pressurized to a gauge pressure of 18 in. [45.72 cm] of water or when evacuated to gauge pressure of 6.0 in. [15.24 cm] of water.</p> <p>Verify that each gasoline truck tank that has been certified leak tight displays a sticker near the Department of Transportation certification plate which includes the following information:</p> <ul style="list-style-type: none"> - identification number of the tank - date that the tank last passed the pressure and vacuum test. <p>Verify that there are no avoidable visible liquid leaks from any gasoline truck tank.</p> <p>Verify that any truck tank with a leak equal to or greater than 100 percent of the lower explosive limit is not used beyond 15 days after the leak has been discovered, unless the leak has been repaired and the tank has been certified to be leak tight.</p>

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-21. Gasoline tank truck vapor collection systems are required to meet specific requirements (NCAC 2D.0932 (d)).	<p>Verify that the vapor collection system and vapor control system are designed and operated to prevent gauge pressure in the truck tank from exceeding 18 in. [46 cm] of water and to prevent vacuum from exceeding 6 in. [15 cm] of water.</p> <p>Verify that, during loading and unloading operations, the following types of leaks do not occur:</p> <ul style="list-style-type: none"> - vapor leakage from the vapor collection system, causing a reading equal to or greater than 100 percent of the lower explosive limit at 1 in. [2.54 cm] around the perimeter of each potential leak source as detected by a combustible gas detector - avoidable visible liquid leaks. <p>(NOTE: If a leak is discovered that exceeds 100 percent of the lower explosive limit, the vapor collection system or vapor control system (and therefore the source) is not to be used beyond 15 days after the leak has been discovered, unless the leak has been repaired and the system has been retested and found to comply with the stated limits.)</p> <p>Verify that the vapor collection system is monitored at least once per year.</p>
1-22. Installations that operate gasoline truck tanks and vapor collection systems are required to maintain specific records (NCAC 2D.0932(e)).	<p>Verify that the installation maintains records of all certification testing and repairs which identify the gasoline truck tank, vapor collection system, or vapor control system and include the date of the test or repair, and if applicable, the type of repair and the date of retest.</p> <p>Verify that the records of certification tests include the following information:</p> <ul style="list-style-type: none"> - the gasoline truck tank identification number - the initial test pressure and the time of the reading - the final test pressure and the time of the reading - the initial test vacuum and the time of the reading - the final test vacuum and the time of the reading - the date and location of the tests. <p>Verify that the records are maintained for at least 2 yr after the date of the testing or repair.</p>

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

**REGULATORY
REQUIREMENTS:**

**GASOLINE
SERVICE STATIONS
STAGE I**

1-23. Installations are required to meet specific operating procedures and equipment standards when transferring gasoline from a delivery vessel to a stationary storage tank (NCAC 2D.0928(b) through (e)).

REVIEWER CHECKS:

(NOTE: This applies to all gasoline dispensing facilities and gasoline service stations.)

Determine if the installation operates any of the following types of equipment or engages in any of the following activities, which are exempt from this regulation:

- transfers made to storage tanks of gasoline dispensing facilities or gasoline service stations equipped with floating roofs or their equivalent, which have been approved by the Director
- stationary tanks with a capacity of not more than 2000 gal [7570.82 L] which were in place before 1 July 1979, if the tanks are equipped with a submerged fill pipe
- stationary storage tanks with a capacity of not more than 550 gal [2081.98 L] which were installed after 30 June 1979, if the tanks are equipped with a submerged fill pipe
- stationary storage tanks at gasoline dispensing facilities or gasoline service stations where the combined annual throughput of gasoline at the facility or station does not exceed 50,000 gal [189,270.60 L], if the tanks are equipped with submerged fill pipes.

Verify that, when gasoline is transferred from any delivery vessel into any stationary storage tank, the following conditions are met:

- the tank is equipped with a submerged fill pipe, and the vapors displaced from the storage tank during filling are controlled by a vapor control system
- the vapor control system is in good working order and is connected and operating
- the vapor control system is properly maintained and all torn or malfunctioning components or elements of design are repaired, replaced, or modified
- gauges, meters, or other specified testing devices are maintained in proper working order
- the following records are kept:
 - the scheduled date for maintenance or the date that a malfunction was detected
 - the date the maintenance was performed or the malfunction corrected
 - the component or element of design of the control system repaired, replaced, or modified.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-23. (continued)	<p>Verify that the vapor control system includes one or more of the following:</p> <ul style="list-style-type: none"> - a vapor-tight line from the storage tank to the delivery vessel and a system which will ensure the vapor line is connected so that gasoline can be transferred into the tank - a refrigeration-condensation system or equivalent designed to recover at least 90 percent by weight of the organic compounds in the displaced vapor - the vapor-laden delivery vessel is designed and maintained to be vapor-tight during loading and unloading operations and during transport, with the exception of normal pressure/vacuum venting as required by the regulations of the Department of Transportation.
SOLVENT METAL CLEANING 1-24. Installations that use cold cleaners are required to meet specific operating procedures and equipment standards (NCAC 2D.0930(d)).	<p>Verify that the cold cleaner is equipped with the following:</p> <ul style="list-style-type: none"> - a cover designed to be easily operated with one hand, if one of the following conditions is met: <ul style="list-style-type: none"> - the solvent volatility is greater than 15 mm Hg or 0.3 psi measured at 100 °F [37.78 °C] - the solvent is agitated - the solvent is heated - a facility for draining cleaned parts - one of the following control devices, if the solvent volatility is greater than 33 mm Hg or 0.6 psi measured at 100 °F [37.78 °C], or if the solvent is heated above 120 °F [48.89 °C]: <ul style="list-style-type: none"> - freeboard which gives a freeboard ratio greater than or equal to 0.7 - water cover if the solvent is insoluble in and heavier than water - other systems of equivalent control, such as refrigerated chiller or carbon adsorption, approved by the Director.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-24. (continued)	<p>Verify that the installation meets the following operating requirements for cold cleaners:</p> <ul style="list-style-type: none"> - a permanent, conspicuous label, summarizing the operating requirements is placed on or near the degreaser - waste solvent is stored only in covered containers and not disposed of or transferred to another party, such that greater than 20 percent of the waste solvent (by weight) evaporates into the atmosphere - the cover is closed whenever parts are not being handled in the cleaner - cleaned parts are drained for at least 15 s or until dripping ceases - if used, the solvent spray is a solid fluid stream (not a fine, atomized, or shower type spray) at a pressure which does not cause excessive splashing.
<p>1-25. Installations that use open top vapor degreasers are required to meet specific operating procedures and equipment standards (NCAC 2D.0930(c)(1) and (e)).</p>	<p>Verify that the open top vapor degreaser is equipped with the following:</p> <ul style="list-style-type: none"> - a cover that can be opened and closed easily without disturbing the vapor zone - the following safety switches or devices: <ul style="list-style-type: none"> - a condenser flow switch and thermostat or other device which prevents heat input if the condenser coolant is either not circulating or too warm - a spray safety switch or other device which shuts off the spray pump if the vapor level drops more than 10 in. [25.4 cm] - a vapor level control thermostat or other device which prevents heat input when the vapor level rises too high - one of the following control devices: <ul style="list-style-type: none"> - freeboard ratio greater than or equal to 0.75 - refrigerated chiller - enclosed design (the cover or door opens only when the dry part is actually entering or exiting the degreaser) - carbon adsorption system, with ventilation greater than or equal to 50 ft³/min/ft² [15.24 m³/min/m²] of air/vapor area (when cover is open), and exhausting less than 25 ppm of solvent averaged over one complete adsorption cycle. <p>(NOTE: Control devices are not required for open top degreasers with an open area smaller than 10.8 ft² [1.00 m²]. When the degreaser opening is greater than 10.8 ft² [1.00 m²], the cover must be powered.)</p>

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

**REGULATORY
REQUIREMENTS:**

REVIEWER CHECKS:

1-25. (continued)

Verify that the installation meets the following operating requirements for open top vapor degreasers:

- close the cover at all times except when processing workloads through the degreaser
- minimize solvent carryout by:
 - racking parts to allow complete drainage
 - moving parts in and out of the degreaser at less than 11 ft/min [3.35 m/min]
 - holding the parts in the vapor zone at least 30 s or until condensation ceases
 - tipping out any pools of solvent on the cleaned parts before removal from the vapor zone
 - allowing parts to dry within the degreaser for at least 15 s or until visually dry
- do not degrease porous or absorbent materials, such as cloth, leather, wood, or rope
- do not occupy more than half of the degreaser's open top area with a workload
- do not load the degreaser to the point where the vapor level would drop more than 10 in. [25.4 cm] when the workload is removed from the vapor zone
- always spray below the vapor level
- repair solvent leaks immediately or shutdown the degreaser
- store waste solvent only in covered containers
- do not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere
- do not operate the cleaner so as to allow water to be visually detectable in solvent exiting the water separator
- do not use ventilation fans near the degreaser opening
- do not provide exhaust ventilation exceeding 65 ft³/min/ft² [19.81 m³/min/m²] of degreaser open area, unless necessary to meet OSHA requirements
- post a permanent, conspicuous label summarizing the operating procedure on or near the degreaser.

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>1-26. Installations that use conveyORIZED degreasers are required to meet specific operating procedures and equipment standards (NCAC 2D.0930(c)(2) and (f)).</p>	<p>(NOTE: This does not apply to conveyORIZED degreasers with an air/vapor interface smaller than 21.6 ft² [2.01 m²].)</p> <p>Verify that the conveyORIZED degreaser is equipped with the following:</p> <ul style="list-style-type: none"> - one of the following control devices: <ul style="list-style-type: none"> - refrigerated chiller - carbon adsorption system, with ventilation greater than or equal to 50 ft³/min/ft² [15.24 m³/min/m²] of air/vapor area (when downtime covers are open), and exhausting less than 25 ppm of solvent by volume averaged over a complete adsorption cycle - a drying tunnel or rotating (tumbling) basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor - the following safety switches or devices: <ul style="list-style-type: none"> - a condenser flow switch and thermostat or other device which prevents heat input if the condenser coolant is either not circulating or too warm - a spray safety switch or other device which shuts off the spray pump or the conveyor if the vapor level drops more than 10 in. [25.4 cm] - a vapor level control thermostat or other device which prevents heat input when the vapor level rises too high. <p>Verify that the installation meets the following operating requirements for conveyORIZED degreasers:</p> <ul style="list-style-type: none"> - minimize openings during operation so that entrances and exits will silhouette workloads with an average clearance between the parts and the edge of the degreaser opening of less than 4 in. [10.16 cm] or less than 10 percent of the width of the opening - provide downtime covers for closing off the entrance and exit during shutdowns - minimize carryout emissions by: <ul style="list-style-type: none"> - racking parts for best drainage - maintaining the vertical conveyor speed at less than 11 ft/min [3.35 m/min] - repair solvent leaks immediately or shutdown the degreaser - store waste solvent only in covered containers - do not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>1-26. (continued)</p>	<ul style="list-style-type: none"> - do not operate the cleaner so as to allow water to be visually detectable in solvent exiting the water separator - do not use workplace fans near the degreaser opening - do not provide exhaust ventilation exceeding $65 \text{ ft}^3/\text{min}/\text{ft}^2$ [$19.82 \text{ m}^3/\text{min}/\text{m}^2$] of degreaser open area, unless necessary to meet OSHA requirements - place downtime covers over entrances and exits of conveyORIZED degreasers immediately after the conveyors and exhausts are shutdown and do not remove them until just before startup.
<p>CUTBACK ASPHALT</p> <p>1-27. Installations are prohibited from mixing, storing, or using cutback asphalt except under specific circumstances (NCAC 2D.0931(b) and (c)).</p>	<p>(NOTE: This applies to the manufacture and use of cutback asphalts for the purpose of paving or maintaining roads, highways, streets, parking lots, driveways, curbs, sidewalks, air fields (runways, taxiways, and parking aprons), recreational facilities (tennis courts, playgrounds, and trails), and other similar structures.)</p> <p>Verify that the installation does not mix, store, or use cutback asphalt, except under the following circumstances:</p> <ul style="list-style-type: none"> - long-life (one month or more) stockpile storage is necessary - the use or application at ambient temperatures less than 50°F [10°C], as measured at the nearest National Weather Service Field Office or Federal Aviation Administration Station, is necessary - the cutback asphalt is to be used solely as a penetrating prime coat - the user can demonstrate to the Director that there are no VOC emissions under conditions of normal use.

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>PETROLEUM LIQUID STORAGE IN EXTERNAL FLOATING ROOF TANKS</p> <p>1-28. Installations that use external floating roof tanks for petroleum liquid storage are required to meet specific operating procedures and equipment standards (NCAC 2D.0933(b) through (e)).</p>	<p>(NOTE: This applies to all external floating roof tanks with capacities greater than 950 barrels [151037.94 L] containing petroleum liquids whose true vapor pressure exceed 1.52 psia.)</p> <p>Determine if the installation uses any of the following types of petroleum liquid storage vessels, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - vessels that have external floating roofs, and that contain a petroleum liquid with a true vapor pressure less than 4.0 psia and meet the following conditions: <ul style="list-style-type: none"> - the tanks are of welded construction - the primary seal is a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted filled type seal, or any other closure device of demonstrated equivalence - vessels that have external floating roofs and that are of welded construction, are equipped with a metallic-type shoe primary seal, and have a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal) - vessels that have fixed roofs with or without internal floating roofs. <p>Verify that the external floating roof tank meets the following equipment standards:</p> <ul style="list-style-type: none"> - the tank has been retrofitted with one of the following: <ul style="list-style-type: none"> - a continuous secondary seal extending from the floating roof to the tank wall (a rim-mounted secondary) - a closure or other control device demonstrated to have an efficiency equal to or greater than a continuous secondary seal - the seal closure devices meet the following requirements: <ul style="list-style-type: none"> - there are no visible holes, tears, or other openings in the seal or seal fabric - the seal is intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall - for vapor mounted primary seals, the gap-area of gaps exceeding 0.125 in. [0.3175 cm] in width between the secondary seal and the tank wall does not exceed 1.0 in.²/ft [21.17 cm²/m] of tank diameter - all openings in the external floating roof, except for automatic bleeder vents, rims space vents, and leg sleeves, are: <ul style="list-style-type: none"> - provided with a projection below the liquid surface - equipped with covers, seals, or lids that remain in a closed position at all times except when in actual use.

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-28. (continued)	<p>Verify that installations that use external floating roof tanks meet the following operating procedures:</p> <ul style="list-style-type: none"> - automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports - rim vents are set to open only when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting - any emergency roof drains are provided with slotted membrane fabric covers or equivalent covers that cover at least 90 percent of the area at the opening - routine visual inspections are conducted once per month - for tanks equipped with a vapor-mounted primary seal, the secondary seal gap measurements are made annually - records are maintained and include the following: <ul style="list-style-type: none"> - reports of the results of inspections - a record of the average monthly storage temperature and the true vapor pressure of the petroleum liquids stored - records of the throughput quantities and types of volatile petroleum liquids for each storage vessel. <p>(NOTE: The secondary seal gap area is determined by measuring the length and width of the gaps around the entire circumference of the secondary seal. Only gaps equal to or greater than 0.125 in. [0.3175 cm] are used in computing the gap area.)</p>
<p>1-29. Installations that store petroleum liquid with a true vapor pressure greater than 1.0 psi are required to maintain specific records (NCAC 2D.0933(f)).</p>	<p>Determine if the installation stores petroleum liquid with a true vapor pressure greater than 1.0 psi in a petroleum liquid storage vessel with an external floating roof not equipped with a secondary seal or approved alternative.</p> <p>Verify that the installation maintains records that include the following information:</p> <ul style="list-style-type: none"> - the average monthly storage temperature - the type of liquid - throughput quantities - the maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than 1.0 psi.

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>PETROLEUM LIQUID STORAGE IN FIXED ROOF TANKS</p> <p>1-30. Installations that store petroleum liquid in fixed roof tanks are required to meet specific requirements (NCAC 2D.0925(b) through (d)).</p>	<p>(NOTE: This applies to all fixed roof storage vessels with capacities greater than 39,000 gal [147,631.07 L] containing volatile petroleum liquids whose true vapor pressure is greater than 1.52 psia.)</p> <p>Verify that the installation does not use any fixed roof storage vessel unless it meets the following conditions:</p> <ul style="list-style-type: none"> - is retrofitted with an internal floating roof equipped with a closure seal or seals, to close the space between the roof edge and the tank wall - is maintained so that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials - all openings, except stub drains, are equipped with covers, lids, or seals so that: <ul style="list-style-type: none"> - the cover, lid, or seal is in the closed position at all times except when in actual use - automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports - rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting - routine visual inspections are conducted through roof hatches once per month - a complete inspection of cover and seal is conducted whenever the tank is emptied for maintenance, shell inspection, cleaning, or for other nonoperational reasons or whenever excessive vapor leakage is observed. <p>Verify that the installation maintains records which include the following information:</p> <ul style="list-style-type: none"> - inspections reports - records of the average monthly storage temperature, and true vapor pressures of petroleum liquids stored - records of the throughput quantities and types of petroleum liquids for each storage vessel.

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>GRAPHIC ARTS</p> <p>1-31. Installations are required to restrict the emissions of VOC from graphic arts printing processes (NCAC 2D.0936(b) and (c)).</p>	<p>(NOTE: This applies to flexographic printing, packaging rotogravure printing, publication rotogravure printing, and machines that have both coating units and printing units.)</p> <p>Verify that the installation does not allow VOC emissions from any printing unit or drying oven of a printing operation to be discharged into the atmosphere, unless the following conditions are met:</p> <ul style="list-style-type: none"> - the captured VOC emissions are reduced by at least 90 percent by an incineration system or 95 percent by a carbon adsorption system or any other control system, and one of the following: <ul style="list-style-type: none"> - for packaging rotogravure printing operations, at least 65 percent overall reduction of the VOC emissions is achieved - for publication rotogravure printing operations, at least 75 percent overall reduction of the VOC emissions is achieved - for flexographic printing operations, at least 60 percent overall reduction of the VOC emissions is achieved - the solvent portion of the ink, as it is applied on the substrate, consists of at least 75 percent water by volume and no more than 25 percent organic solvent by volume - the ink contains by volume at least 60 percent nonvolatile material - the printing system uses a combination of solvent-borne and water-borne ink such that at least a 70 percent by volume overall reduction in solvent usage is achieved when compared to all solvent-borne inks, or the ink, including any solvents that may be added to it, contains no more than 0.5 lb [0.23 kg] of VOCs per pound of solids in the ink. <p>(NOTE: Only flexographic printing and packaging rotogravure printing may use this option.)</p>
<p>PERCHLORO-ETHYLENE DRYCLEANING</p> <p>1-32. Installations that operate perchloroethylene drycleaning facilities are required to meet specific requirements (NCAC 2D.0938(c) through (f)).</p>	<p>(NOTE: This regulation does not apply to perchloroethylene drycleaning facilities that are coin-operated.)</p> <p>Verify that the installation does not cause or allow the following:</p> <ul style="list-style-type: none"> - any liquid leakage of organic solvent from the system - gaseous leakage in excess of 100 ppm - the operation of the system unless: <ul style="list-style-type: none"> - the entire dryer exhaust is vented through a properly functioning carbon adsorber or equally effective control device - the maximum organic solvent concentration in the exhaust from the dryer control device is not more than 100 ppm by volume before dilution.

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-32. (continued)	<p>(NOTE: Where an adsorber cannot be accommodated because of inadequate space or where no or insufficient steam capacity is available to desorb the adsorber, the perchloroethylene drycleaning system is exempt from this regulation.)</p> <p>Verify that filtration or distillation systems are not used unless the following specifications are met:</p> <ul style="list-style-type: none"> - the residue from any diatomaceous earth filter is cooked or treated so that wastes do not contain more than 25 lb [11.34 kg] of solvent per 100 lb [45.36 kg] of wet waste material - the residue from a solvent still does not contain more than 60 lb [27.22 kg] of solvent per 100 lb [45.36 kg] of wet waste material - filtration cartridges are drained in the filter housing for at least 24 h before being discarded, and if at all possible, the drained cartridges are dried in the dryer tumbler, or by other means to prevent the emissions of VOCs to the atmosphere - for all other filtration or distillation systems, waste losses do not exceed 1 lb [0.45 kg] of solvent per 100 lb [45.36 kg] of clothes cleaned.
PETROLEUM DRYCLEANING	<p>(NOTE: This regulation applies to petroleum solvent washers, dryers, solvent filters, settling tanks, stills, and other containers and conveyors of petroleum solvent that are used in petroleum solvent drycleaning facilities that consume 32,500 gal [123,025.89 L] or more of petroleum solvent annually.)</p> <p>Verify that the installation meets one of the following requirements:</p> <ul style="list-style-type: none"> - limits emissions of VOC to the atmosphere to an average of 3.5 lb [1.59 kg] of VOCs per 100 lb [45.36 kg] dry weight of articles drycleaned - installs and operates a solvent recovery dryer in a manner such that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of 50 mL/min [1.69 fl oz/min] is attained. <p>Verify that the petroleum solvent filter meets one of the following requirements:</p> <ul style="list-style-type: none"> - reduces the VOC content in all filter wastes to 1.0 lb [0.45 kg] or less per 100 lb [45.36 kg] dry weight of articles cleaned, before disposal and exposure to the atmosphere - installs and operates a cartridge filter and drains the filter cartridges in their sealed housings for 8 h or more before their removal. <p>Verify that facility personnel inspects the petroleum drycleaning facility every 15 days and repairs all perceptible leaks within 15 working days after identifying the sources of the leaks.</p>
1-33. Installations that operate petroleum drycleaning facilities are required to meet specific requirements (NCAC 2D.0945(b) through (e)).	

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>1-33. (continued)</p>	<p>Verify that, if the necessary repair parts are not on hand, these parts are ordered within 15 working days and the leaks are repaired no later than 15 working days following the arrival of the necessary parts.</p> <p>Verify that the installation maintains the following records:</p> <ul style="list-style-type: none"> - when inspections were made - what was inspected - leaks found - type of repair made - when repairs were made.
<p>MOTOR VEHICLE EMISSIONS</p> <p>1-34. Installations are required to meet specific motor vehicle emission standards (NCAC 2D.1002 and 2D.1004(a)).</p>	<p>(NOTE: This regulation is applicable to all 1975 and later gasoline-powered motor vehicles, except motorcycles and excluding the current model year, that are required to be registered by the NC Division of Motor Vehicles in the following counties: Mecklenburg, Wake, Forsyth, and Guilford.)</p> <p>Determine if the installation is located in Mecklenburg, Wake, Forsyth, or Guilford County.</p> <p>Verify that the installation meets the standards for CO and hydrocarbon (HC) concentration listed in Appendix 1-5.</p>
<p>INCINERATORS</p> <p>1-35. Installations are required to restrict the emissions of air pollutants from incinerators (NCAC 2D.1201 and 2D.1205(b), (f), and (g)).</p>	<p>(NOTE: This regulation applies to all types of incinerators, including incinerators with heat recovery and industrial incinerators. This section does not apply to after-burners, flares, fume incinerators, and other similar devices used to reduce the emissions of air pollutants from processes whose emissions are regulated as process emissions, or to any boilers or industrial furnaces that burn waste as a fuel.)</p> <p>(NOTE: If an incinerator can be defined as being more than one type of incinerator, then the following order is to be used to determine the standards and requirements to apply: hazardous waste incinerators, sludge incinerators, medical waste incinerators, municipal solid waste incinerators, and other incinerators.)</p> <p>Verify that the incinerator meets the standards for particulate emissions outlined in Appendix 1-6.</p> <p>Verify that, except for hazardous waste incinerators, emissions of hydrogen chloride from an incinerator do not exceed 4 lb/h [1.81 kg/h] unless it is reduced by at least 90 percent by weight or to no more than 50 ppm by volume, corrected to 7 percent oxygen (dry basis).</p>

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-35. (continued)	<p>(NOTE: Hazardous waste incinerators must meet the hydrogen chloride emissions requirements of 40 CFR 264.343(b).)</p> <p>Verify that emissions of mercury and mercury components from the stack or chimney of a municipal solid waste incinerator do not exceed 0.29 lb/h [0.13 kg/h].</p> <p>Verify that emissions of mercury and mercury compounds from the stack or chimney of a hazardous waste incinerator, medical waste incinerator, and any other type incinerator do not exceed 0.032 lb/h [0.015 kg/h].</p>
1-36. Installations that use incinerators are required to meet specific operational standards (NCAC 2D.1206(b) through (h)).	<p>Medical waste incinerators are required to meet the following standards:</p> <ul style="list-style-type: none"> - the primary chamber temperature is at least 1200 °F [648.89 °C] - the secondary chamber temperature is at least 1800 °F [982.22 °C] - gases generated by the combustion are subjected to a minimum temperature of 1800 °F [982.22 °C] for a period of not less than 1 s. <p>Verify that municipal solid waste incinerators meet the following requirements:</p> <ul style="list-style-type: none"> - the concentration of carbon monoxide at the combustor outlet does not exceed the concentration in Table 1 of Paragraph (a) of 40 CFR 60.63a - the temperature of the exhaust gas entering the particulate matter control device does not exceed 450 °F [232.22 °C] - gases generated by the combustion are subjected to a minimum temperature of 1800 °F [982.22 °C] for a period of not less than 1 second. <p>Verify that sludge incinerators meet the following requirements:</p> <ul style="list-style-type: none"> - the combustion temperature is not greater than 1650 °F [898.89 °C] or less than 1200 °F [648.89 °C] - the maximum oxygen content of the exit gas is: <ul style="list-style-type: none"> - 12 percent (dry basis) for a multiple hearth sewage sludge incinerator - 7 percent (dry basis) for a fluidized bed sewage sludge incinerator - 9 percent (dry basis) for an electric sewage sludge incinerator - 12 percent (dry basis) for a rotary kiln sewage sludge incinerator. <p>Verify that all other types of incinerators meet the following requirements:</p> <ul style="list-style-type: none"> - gases generated by the combustion are subjected to a minimum temperature of 1800 °F [982.22 °C] for a period of not less than 1 s - the temperature of 1800 °F [982.22 °C] is maintained at least 55 min out of each 60-min period, but at no time does the temperature go below 1600 °F [871.11 °C].

COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
1-36. (continued)	<p>Verify that, except during start-up where the procedure has been approved, waste material is not loaded into any medical waste incinerator, municipal solid waste incinerator, or any other type of incinerator, excluding hazardous waste incinerators and sludge incinerators, when the temperature is below the minimum required.</p> <p>Verify that medical waste incinerators, municipal solid waste incinerators, and any other type of incinerator, excluding hazardous waste incinerators and sludge incinerators, have automatic auxiliary burners that are capable of maintaining the required minimum temperature in the secondary chamber excluding the heat content of the wastes.</p> <p>(NOTE: The CFR adopted by reference in this rule is that of 15 February 1991, in accordance with G.S. 150B-14(b).)</p>
1-37. Installations that use incinerators are required to develop a compliance schedule (NCAC 2D.1209 (a)(2)(B), (C), (b)(2)(C), and (c)(2)(C)).	<p>(NOTE: This applies to incinerators on which construction began or which began operation before 1 October 1991.)</p> <p>Verify that the compliance schedule contains the following increments of progress:</p> <ul style="list-style-type: none"> - a date by which contracts for the emission control system and/or process equipment will be awarded or orders will be issued for purchase of component parts - a date by which onsite construction or installation of the emission control and/or process equipment will begin - a date by which onsite construction or installation of the emission control and/or process equipment is to be completed - a date by which final compliance is to be achieved. <p>Verify that the final compliance date is not later than the following:</p> <ul style="list-style-type: none"> - 1 April 1994, for incinerators at plant sites with an incinerator capacity of 1000 lb/h [453.59 kg/hr] or more - 1 October 1994, for incinerators at plant sites with an incinerator capacity of less than 1000 lb/h [453.59 kg/h] but 400 lb/h [181.44 kg/h] or more - 1 April 1995, for incinerators at plant sites with an incinerator capacity of less than 400 lb/h [181.44kg/h] but 200 lb/h [90.72 kg/h] or more - 1 October 1995, for incinerators at plant sites with an incinerator capacity of less than 200 lb/h [90.72 kg/h] - 1 January 1995, for medical waste incinerators - within 2 years after receipt of a permit from the Division of Solid Waste Management, but before 1 October 1995, for hazardous waste incinerators.

**COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>OXYGENATED GASOLINE STANDARD</p> <p>1-38. Installations that use or store oxygenated gasoline are required to meet specific standards (NCAC 2D.1302 and 2D.1304).</p>	<p>(NOTE: This regulation applies to oxygenated gasoline used or stored in the Raleigh/Durham Metropolitan Statistical Area consisting of Durham, Franklin, Orange, and Wake Counties, and the Greensboro/Winston-Salem/High Point Metropolitan Statistical Area consisting of Davie, Davidson, Forsyth, Guilford, Randolph, Stokes, and Yadkin Counties, for the 4 mo period beginning 1 November and running through the last day of February of the following year.)</p> <p>Determine if the installation uses or stores oxygenated gasoline and is located in either the Raleigh/Durham Metropolitan Area or Greensboro/Winston-Salem/High Point Metropolitan Area.</p> <p>Verify that the gasoline has an oxygen content of not less than 2.7 percent by weight for the 4 mo period beginning 1 November and running through the last day of February of the following year.</p>

Appendix 1-1

Toxic Air Pollutant Guidelines

(Source: NCAC 2D.1104(a) and (b))

Part A

Installations are prohibited from emitting any of the following toxic air pollutants in such quantities that may cause or contribute beyond the premises (contiguous property boundary) to any significant ambient air concentration that may adversely affect human health. In determining these significant ambient air concentrations, the installation shall be guided by the following list of acceptable ambient levels in milligrams per cubic meter at 77 °F (25 °C) and 29.92 in. (760 mm) of mercury pressure (except for asbestos):

Toxic Air Pollutant	Annual (Carcinogens)	24-h (Chronic Toxicants)	1-h (Acute Systemic Toxicants)	15-min (Acute Irritants)
acetaldehyde				27.0
acetic acid				3.7
acrolein				0.08
ammonia				2.7
aniline			1.0	
arsenic and compounds	2.3×10^{-7}			
asbestos	2.8×10^{-11} fibers/mL			
aziridine		0.006		
benzidine and salts	1.5×10^{-8}			
benzo(a)pyrene	3.3×10^{-5}			
benzyl chloride			0.5	
beryllium	4.1×10^{-6}			
beryllium chloride	4.1×10^{-6}			
beryllium fluoride	4.1×10^{-6}			
beryllium nitrate	4.1×10^{-6}			
bis-chloromethyl ether	3.7×10^{-7}			
bromine				0.2
cadmium	5.5×10^{-6}			
cadmium acetate	5.5×10^{-6}			
cadmium bromide	5.5×10^{-6}			
carbon disulfide		0.186		

(continued)

Appendix 1-1 (continued)

Toxic Air Pollutant	Annual (Carcinogens)	24-h (Chronic Toxicants)	1-h (Acute Systemic Toxicants)	15-min (Acute Irritants)
chlorine		0.0375		0.9
chlorobenzene		2.2		
chloroprene		0.44	3.5	
cresol			2.2	
p-dichlorobenzene				66.0
dichlorodifluoromethane		248.0		
dichlorofluoromethane		0.5		
di(2-ethylhexyl)phthalate		0.03		
dimethyl sulfate		0.003		
1,4-dioxane		0.56		
epichlorohydrin	8.3x10 ⁻²			
ethyl acetate			140.0	
ethylenediamine		0.3		2.5
ethylene dibromide	4.0x10 ⁻⁴			
ethylene dichloride	3.8x10 ⁻³			
ethylene glycol monoethyl ether		0.12	1.9	
ethyl mercaptan			0.1	
fluorides		0.016	0.25	
formaldehyde				0.15
hexachlorocyclopentadiene		0.0006	0.01	
hexachlorodibenzo-p-dioxin	7.6x10 ⁻⁸			
n-hexane		1.1		
hexane isomers except n-hexane				360.0
hydrazine		0.0006		
hydrogen chloride				0.7
hydrogen cyanide		0.14	1.1	
hydrogen fluoride	0.03			0.25
hydrogen sulfide				2.1
maleic anhydride		0.012	0.1	
manganese and compounds	0.031			
manganese cyclopentadienyl tricarbonyl		0.0006		
manganese tetroxide		0.0062		

(continued)

Appendix 1-1 (continued)

Toxic Air Pollutant	Annual (Carcinogens)	24-h (Chronic Toxicants)	1-h (Acute Systemic Toxicants)	15-min (Acute Irritants)
mercury, alkyl		0.00006		
mercury, aryl and inorganic compounds		0.0006		
mercury, vapor		0.0006		
methyl chloroform		12.0		245.0
methyl ethyl ketone		3.7		88.5
methyl isobutyl ketone		2.56		30.0
methyl mercaptan			0.05	
nickel carbonyl		0.0006		
nickel metal		0.006		
nickel, soluble compounds as nickel		0.0006		
nickel subsulfide	2.1×10^{-6}			
nitric acid				1.0
nitrobenzene		0.06	0.5	
N-nitrosodimethylamine	5.0×10^{-5}			
pentachlorophenol		0.003	0.025	
phenol			0.95	
phosgene		0.0025		
phosphine				0.13
polychlorinated biphenyls	8.3×10^{-5}			
styrene		1.34		42.5
sulfuric acid		0.012	0.1	
1,1,1,2-tetrachloro-2,2-difluoroethane		52.0		
1,1,2,2-tetrachloro-1,2-difluoroethane		52.0		
1,1,1,2-tetrachloroethane	6.3×10^{-3}			
toluene		4.7		56.0
toluene-2,4-diisocyanate		0.0005		0.015
trichlorofluoromethane		560.0		
1,1,2-trichloro-1,2,2-trifluoroethane				950.0
vinyl chloride	3.8×10^{-4}			
vinylidene chloride		0.12		
xylene		2.7		65.0

(continued)

Appendix 1-1 (continued)

Part B

After 1 May 1991, installations are prohibited from emitting any of the following toxic air pollutants in such quantities that may cause or contribute beyond the premises to any significant ambient air concentration that may adversely affect human health. In determining these significant ambient air concentrations, the installation shall be guided by the following list of acceptable ambient levels in milligrams per cubic meter at 77 °F (25 °C) and 29.92 in. (760 mm) of mercury pressure:

Toxic Air Pollutant	Annual (Carcinogens)
acrylonitrile	1.5×10^{-4}
ammonium chromate	8.3×10^{-8}
ammonium dichromate	8.3×10^{-8}
benzene	1.2×10^{-4}
1,3-butadiene	1.7×10^{-4}
calcium chromate	8.3×10^{-8}
carbon tetrachloride	6.7×10^{-3}
chloroform	4.3×10^{-3}
chromic acid	8.3×10^{-8}
chromium (VI)	8.3×10^{-8}
ethylene oxide	2.7×10^{-5}
lithium chromate	8.3×10^{-8}
methylene chloride	2.4×10^{-2}
perchloroethylene	1.9×10^{-1}
potassium chromate	8.3×10^{-8}
potassium dichromate	8.3×10^{-8}
sodium chromate	8.3×10^{-8}
sodium dichromate	8.3×10^{-8}
strontium chromate	8.3×10^{-8}
tetrachlorodibenzo-p-dioxin	3.0×10^{-9}
trichloroethylene	5.9×10^{-2}

Appendix 1-2

Emission Rates for Toxic Air Pollutants

(Source: NCAC 2H.0610(h))

Toxic Air Pollutant	lb/yr	lb/day	lb/h	lb/15 min
acetaldehyde				1.7
acetic acid				0.24
acrolein				0.005
acrylonitrile	10.0			
ammonia				0.17
ammonium chromate		0.013		
ammonium dichromate		0.013		
aniline			0.25	
arsenic and inorganic arsenic compounds	0.016			
asbestos	1.9×10^{-6}			
aziridine		0.13		
benzene	8.1			
benzidine and salts	0.0010			
benzo(a)pyrene	2.2			
benzyl chloride			0.13	
beryllium	0.28			
beryllium chloride	0.28			
beryllium fluoride	0.28			
beryllium nitrate	0.28			
bis-chlormethyl ether	0.025			
bromine				0.013
1,3-butadiene	12.0			
cadmium	0.37			
cadmium acetate	0.37			
cadmium bromide	0.37			
calcium chromate	0.0056			
carbon disulfide		3.9		
carbon tetrachloride	460.0			
chlorine		0.79		0.057
chlorobenzene		46.0		

(continued)

Appendix 1-2 (continued)

Toxic Air Pollutant	lb/yr	lb/day	lb/h	lb/15 min
chloroform	290.0			
chloroprene			9.2	0.89
chromic acid		0.013		
chromium (VI)	0.0056			
cresol			0.56	
p-dichlorobenzene				4.2
dichlorodifluoromethane		5200.0		
dichlorofluoromethane		10.0		
di(2-ethylhexyl)phthalate		0.63		
dimethyl sulfate		0.063		
1,4-dioxane		12.0		
epichlorohydrin	5600.0			
ethyl acetate			36.0	
ethylenediamine		6.3	0.64	
ethylene dibromide	27.0			
ethylene dichloride	260.0			
ethylene glycol monoethyl ether		2.5	0.48	
ethylene oxide	1.8			
ethyl mercaptan			0.025	
fluorides		0.34	0.064	
formaldehyde				0.010
hexachlorocyclopentadiene		0.013	0.0025	
hexachlorodibenzo-p-dioxin	0.0051			
n-hexane		23.0		
hexane isomers except n-hexane				23.0
hydrazine		0.013		
hydrogen chloride				0.045
hydrogen cyanide		2.9	0.28	
hydrogen fluoride		0.63		0.016
hydrogen sulfide				0.13
maleic anhydride		0.25		
manganese and compounds		0.63		
manganese cyclopentadienyl tricarbonyl		0.013		
manganese tetroxide		0.13		

(continued)

Appendix 1-2 (continued)

Toxic Air Pollutant	lb/yr	lb/day	lb/h	lb/15 min
mercury, alkyl		0.0013		
mercury, aryl and inorganic compounds		0.013		
mercury, vapor		0.013		
methyl chloroform		250.0		
methylene chloride	1600.0			
methyl ethyl ketone		78.0		5.6
methyl isobutyl ketone		52.0		1.9
methyl mercaptan			0.013	
nickel carbonyl		0.013		
nickel metal		0.13		
nickel, soluble compounds, as nickel		0.013		
nickel subsulfide	0.14			
nitric acid				0.064
nitrobenzene		1.3	0.13	
N-nitrosodimethylamine	3.4			
pentachlorophenol		0.063	0.0064	
perchloroethylene	13000.0			
phenol			0.24	
phosgene		0.052		
phosphine				0.008
polychlorinated biphenyls	5.6			
potassium chromate		0.013		
potassium dichromate		0.013		
sodium chromate		0.013		
sodium dichromate		0.013		
strontium chromate	0.0056			
styrene			2.7	
sulfuric acid		0.25	0.025	
tetrachlorodibenzo-p-dioxin	0.00020			
1,1,1,2-tetrachloro-2,2-difluoroethane		1100.0		
1,1,2,2-tetrachloro-1,2-difluoroethane		1100.0		
1,1,1,2-tetrachloroethane	430.0			
toluene		98.0		3.6
toluene-2,4-diisocyanate		0.011		0.001

(continued)

Appendix 1-2 (continued)

Toxic Air Pollutant	lb/yr	lb/day	lb/h	lb/15 min
trichloroethylene	4000.0			
trichlorofluoromethane			140.0	
1,1,2-trichloro-1,2,2-trifluoroethane				60.0
vinyl chloride	26.0			
vinylidene chloride		2.5		
xylene		57.0		4.1
zinc chromate	0.0056			

Appendix 1-3

Particulates from Fuel Burning and Wood Burning Indirect Heat Exchangers

(Source: NCAC 2D.0503(a) and (b), 2D.0504(a) and (b))

Part A

Particulates from Fuel Burning Indirect Heat Exchangers

Maximum Heat Input in MBtu/h	Allowable Emission Limit for Particulate Matter in lb/MBtu
Up to and including 10	0.60
100	0.33
1000	0.18
10,000 and greater	0.10

Part B

Particulates from Wood Burning Indirect Heat Exchangers

Maximum Heat Input in MBtu/h	Allowable Emission Limit for Particulate Matter in lb/MBtu
Up to and including 10	0.70
100	0.41
1000	0.25
10,000 and greater	0.15

Appendix 1-4

Photochemically Reactive Solvents

(Source: NCAC 2D.0518(d))

Photochemically reactive solvents include any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in this Appendix, or which exceed any of the following percentage composition limitations, referred to the total volume of the solvent:

- A combination of hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones having an olefinic or cyclo-olefinic type of unsaturation except perchloroethylene--5 percent
- A combination of aromatic hydrocarbons with eight or more carbon atoms to the molecule except ethylbenzene--8 percent
- A combination of ethylbenzene, ketones having branched hydrocarbon structure, trichloroethylene, or toluene--20 percent.

(NOTE: Whenever any photochemically reactive solvent, or any constituent of any photochemically reactive solvent may be classified from its chemical structure into more than one of the groups in this Appendix of chemical compounds, it will be considered as a member of the most reactive chemical compound group, that is, that group having the least allowable percent of the total volume of solvents.)

Appendix 1-5

Allowable Carbon Monoxide (CO) and Hydrocarbon (HC) Concentrations from Motor Vehicles

(Source: NCAC 2D.1004(a))

Vehicle Class	Model Year	CO Standard at Idle (%)	HC Standard at Idle (ppm)
Light-duty Vehicle	1975-1977	4.5	450
	1978-1979	3.5	350
	1980	2.0	250
	1981 and later	1.2	220
Heavy-duty Vehicle	1975-1978	5.0	500
	1979 and later	4.0	400

Appendix 1-6

Standards for Particulate Emissions from Incinerators

(Source: NCAC 2D.1205(b))

Refuse Charge in lb/h	Allowable Emission Rate for Particulate Matter in lb/h
0 to 100	0.2
200	0.4
500	1.0
1,000	2.0
2,000 and above	4.0

(NOTE: Instead of meeting the standards outlined above, the installation may choose to limit particulate emissions from the incinerator to 0.08 grains per dry standard ft³ corrected to 12 percent CO₂. In order to choose this option, the installation must demonstrate that the particulate ambient air quality standards will not be violated. To correct to 12 percent CO₂, the measured concentration of particulate matter is multiplied by 12 and divided by the measured percent of CO₂.)

(NOTE: Hazardous waste incinerators must meet the particulate matter requirements of 40 CFR 264.343(c).)

INSTALLATION:	COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 2

CLEAN WATER ACT (CWA)

North Carolina Supplement

SECTION 2

CLEAN WATER ACT (CWA)

North Carolina Supplement

North Carolina has adopted by reference the Federal regulations 40 Code of Federal Regulations (CFR) 403, General Pretreatment Regulations for Existing New Sources, Sections 403.3, 403.5, 403.6, 403.8(a),(e), and (f), 403.9, 403.11, and 403.12.

Definitions

These definitions were obtained from the North Carolina Administrative Codes (NCAC): T10: 10A.1903, T15A: 02B.0503, 02C.0102, 02H.0103, 02H.0202, and 02L.0102.

- *Abandoned Well* - to discontinue the use of and to seal the well according to the requirements.
- *Approved Public or Community Sewage System* - a single system of sewage collection treatment, and disposal owned and operated by a sanitary district, a metropolitan sewage district, a water and sewer authority, a county or municipality, or a public utility, constructed and operated in compliance with applicable requirements of the Division of Environmental Management.
- *Authorization to Construct* - a permit required for the construction of water pollution control facilities necessary to comply with the terms and conditions of a National Pollutant Discharge Elimination System (NPDES) permit.
- *Certificate of Coverage* - the approval given discharges that meet the requirements of coverage under a general permit.
- *Classified Water Pollution Control Facility* - a treatment works classified by the Wastewater Treatment Plant Operators Certification Commission as class I, class II, class III, or class IV facility.
- *Commission* - the Environmental Management Commission.
- *Compliance Boundary* - a boundary around a disposal system at and beyond which water quality standards may not be exceeded and only applies to facilities that have received a permit from the Division of Environmental Management or for disposal systems permitted by the Department of Human Resources.
- *Composite Sample* - either a combination of four or more grab samples or a single sample collected continuously during the complete period of daily discharge. The volume of each grab sample or the rate of collection of the continuously collected sample must be in direct proportion to the rate of flow during the time of collection. Where the rate of flow does not vary significantly, grab samples may be of equal size taken at equal intervals of time.
- *Contamination* - foreign materials of such nature, quality, and quantity as to cause degradation of the quality of the water.

- *Design Flow* - the average daily volume of wastewater that a water pollution control facility was designed, approved and constructed to treat.
- *Design Treatment Capability* - the capability of a water pollution control facility to adequately treat a specified wastewater flow, and a designated quantity of organic wastes and suspended and dissolved solid wastes.
- *Director* - the Director of the Division of Environmental Management, Department of Natural Resources and Community Development.
- *Division* - the Division of Environmental Management, Department of Natural Resources and Community Development.
- *Domestic Sewage* - water-carried human wastes together with all other water-carried wastes normally present in wastewater from residences used exclusively for human habitation.
- *Downstream* - a location in the receiving waters below (downstream of) a point of waste discharge after a reasonable opportunity for dilution and mixture.
- *Effluent* - wastewater discharged from a water pollution control facility or other point source whether treated or untreated.
- *Fresh Groundwaters* - those groundwaters having a chloride concentration equal to or less than 250 mg/L.
- *Grab Sample* - an individual sample collected instantaneously.
- *Ground Absorption Sewage Treatment and Disposal System* - a system that utilizes the soil for the sub-surface disposal of partially treated or treated sewage effluent.
- *Groundwaters* - those waters in the saturated zone of the earth.
- *Industrial Establishment* - any industrial, business, commercial or governmental enterprise that produces water carried wastes.
- *Influent* - the wastewater entering a water pollution control facility.
- *Monitoring Well* - any well constructed for the primary purpose of obtaining samples of groundwater or other liquids for examination or testing, or for the observation or measurement of groundwater levels. This definition excludes lysimeters, tensiometers, and other devices used to investigate the characteristics of the unsaturated zone.
- *Natural Conditions* - the physical, biological, chemical and radiological conditions that occur naturally.
- *Nonground Absorption Sewage Treatment System* - a facility for waste treatment designed not to discharge to the soil, land surface, or surface waters, including but not limited to, approved vault privies, incinerating toilets, mechanical toilets, composting toilets, chemical toilets, and recycling systems.
- *NPDES* - a National Pollutant Discharge Elimination System permit required for the operation of point source discharges.

- *Place of Business* - any store, warehouse, manufacturing establishment, place of amusement or recreation, service station, food handling establishment, or any other place where people work or are served.
- *Place of Public Assembly* - any fairground, auditorium, stadium, church, campground, theater, school, or any other place where people gather or congregate.
- *Point Source* - any discernible, confined, and discrete conveyance, including, but specifically not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, or concentrated animal feeding operation from which waste is or may be discharged into the waters of the state.
- *Privy Building* - any and all buildings that are used for privacy in the acts of urination and defecation that are constructed over pit privies and are not connected to a ground absorption sewage treatment and disposal system or a public or community sewage system.
- *Recovery Well* - any well constructed for the purpose of removing contaminated groundwater or other liquids from the subsurface.
- *Residence* - any home, hotel, motel, summer camp, labor work camp, mobile home, dwelling unit in a multiple-family structure, or any other place where people reside.
- *Review Boundary* - a boundary around a permitted disposal facility, midway between a waste boundary and a compliancy boundary at which groundwater monitoring is required.
- *Saline Groundwaters* - those groundwaters having a chloride concentration of more than 250 mg/L.
- *Sample* - a small portion of the wastewater influent, wastewater effluent or of receiving waters.
- *Sanitary System of Sewage Treatment and Disposal* - a complete system of sewage collection treatment and disposal, including approved privies, septic tank systems, connection to public or community sewage systems, incinerators, mechanical toilets, composting toilets, recycling toilets, mechanical aeration systems, or other such systems.
- *Septic Tank* - a water-tight, covered receptacle designed for primary treatment of sewage and constructed to:
 1. receive the discharge of sewage from a building
 2. separate settleable and floating solids from the liquid
 3. digest organic matter by anaerobic bacterial action
 4. store digested solids through a period of detention
 5. allow clarified liquids to discharge for additional treatment and final disposal.
- *Septic Tank System* - a subsurface sanitary sewage system consisting of a septic tank and a subsurface disposal field.
- *Sewage* - the liquid and solid human waste and liquid waste generated by water-using fixtures and appliances, including those associated with food handling. The term does not include industrial process wastewater or sewage that is combined with industrial process wastewater.
- *Subsurface Disposal* - the application of sewage effluent beneath the surface of the ground by distribution through approved nitrification lines.

- *Standard Industrial Classification (SIC)* - those numerical designations set forth in *The Standard Industrial Classification Manual of 1972* classifying industries according to the type of activity in which they are engaged. For the purpose of these regulations, each industry or unit of government is classified by SIC numbers applicable to each activity carried on by the establishment that results in a discharge of wastewater. In addition any industrial establishment or unit of government that collects or discharges domestic sewage is hereby assigned SIC number 9999.
- *Toxic Waste* - those wastes or combinations of wastes, including disease-causing agents that after discharge, and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly form the environment or indirectly by ingestion through the food chains, will cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunction (including malfunctions in reproduction), or physical deformities, in such organisms or their offspring. Toxic substances include but are not limited to: lead, cadmium, chromium, mercury, vanadium, arsenic, molybdenum, antimony, nickel, barium, beryllium, copper, selenium, zinc, ortho-nitro-chlorobenzene (ONCB), polychlorinated biphenyls (PCBs) and dichlordiphenyl-trichloroethant (DDT); and any other materials that have or may hereafter be determined to have toxic properties.
- *Treatment Works or Disposal System that Does Not Discharge to Surface Waters* - any treatment works, facility or disposal system that is designed to either:
 1. operate as a closed system with no discharge to waters of the state
 2. dispose/utilize wastes (including residuals, residues, contaminated soils and animal waste) to the surface of the land
 3. dispose of wastes through subsurface absorption system.
- *Unit of Government* - any incorporated city, town or village, county, sanitary district, metropolitan sewerage district, water or sewer authority, special purpose district, other municipality, or any agency, board, commission, department or political subdivision or public corporation of the state, now or hereafter created or established, empowered to provide wastewater collection streams or wastewater treatment works.
- *Upstream* - a location in the receiving waters near but above (upstream of) a point a wastewater discharge and unaffected by the discharge.
- *Waste Boundary* - the perimeter of the permitted waste disposal area.
- *Waste Stabilization Pond* - a large, relatively shallow basin designed for long term detention of wastewater that may or may not have received prior treatment. While in the basin, the wastewater is biologically treated to reduce biochemical oxygen demand and suspended solids. Stabilization ponds are further defined as:
 1. photosynthetic pond: a pond that is designed to rely on photosynthetic oxygenation for any portion of the oxygen needed for waste treatment
 2. aerated pond: a pond that is not designed to rely on any photosynthetic oxygenation to provide oxygen needed for biological waste treatment; air is supplied by mechanical means.
- *Waters* - any stream, river, brook, swamp, lake, sound, tidal estuary, bay, creek, reservoir, waterway, or other body or accumulation of water, whether surface or underground, public or private, or natural or artificial that is contained in, flows through, or borders upon any portion of this state, including any portion of the Atlantic Ocean over which the state has jurisdiction.

- *Water Pollution Control Facility or Treatment Works* - any plant, septic tank, disposal field, lagoon, pumping station, constructed drainage ditch or surface water intercepting ditch, incinerator, area devoted to sanitary landfill, or other works installed for the purpose of treating, equalizing, neutralizing, stabilizing or disposing of waste.
- *Well* - any excavation that is cored, bored, drilled, jetted, dug or otherwise constructed for the purpose of locating, testing, developing, draining or recharging any groundwater reservoirs or aquifer, or that may control, divert, or otherwise cause the movement of water from or into any aquifer. This does not include a well constructed by an individual on land that is owned or leased by him, appurtenant to a single-family dwelling, and intended for domestic use (including household purposes, farm livestock or gardens).
- *Well Head* - the upper terminal of the well including adapters, ports, valves, seals, and other attachments.

CLEAN WATER ACT (CWA)
GUIDANCE FOR NORTH CAROLINA CHECKLIST USERS

APPLICABILITY:

**REFER TO
CHECKLIST
ITEMS:**

Water Pollution Control Facilities	2-1 through 2-7
Facilities with Wastes Not Discharged to Surface Waters	2-8
Facilities with Wastes Discharged to Surface Waters	2-9
Effluent Limits	2-10
Sewage Treatment and Disposal Systems	2-11 through 2-16
Surface Water Quality Standards	2-17 through 2-24
Discharges to Groundwater	2-25 and 2-26
Well Standards	2-27 through 2-31
Water Use Permit	2-32 through 2-34

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>WATER POLLUTION CONTROL FACILITIES</p> <p>2-1. Installations with water pollution control facilities that receive wastewater from more than one source must meet notification standards (NCAC, T15A: 02B.0504(c)).</p> <p>2-2. Installations with NPDES permitted water pollution control facilities must meet sampling standards (NCAC, T15A: 02B.0505(c)(3), and .0508(d)).</p>	<p>Determine if the installation's water pollution control facility receives wastewater from more than one source and these sources meet one of the following criteria:</p> <ul style="list-style-type: none"> - wastes contain toxic materials in toxic quantities - the industrial establishment contributes an average daily wastewater influent of one percent or more of the design flow of the facility or in excess of 100,000 gal/day [378,541.20 L/day], whichever is less. <p>Verify that the installation submits to the Department of Natural Resources and Community Development, the name and standard industrial classification number(s) for each activity of every industrial establishment.</p> <p>Verify that grab samples are collected in receiving waters.</p> <p>Verify that grab samples are collected for the following influent and effluent tests during the period of maximum flow:</p> <ul style="list-style-type: none"> - dissolved oxygen - temperature - settleable matter - turbidity - pH - residual chlorine - coliform bacteria (fecal or total) - cyanide - oil and grease. <p>Verify that composite samples are collected for all other influent and effluent or point source tests.</p> <p>(NOTE: The Director may determine that composite samples are unnecessary for facilities with design flows of 30,000 gal/day [113,562.36 L/day] or less.)</p>

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>2-3. Installations with NPDES permitted water pollution control facilities must meet grab sample standards (NCAC, T15A:02B.0505(c)(3)).</p> <p>2-4. Water pollution control facilities that receive wastes from a source with a SIC number that is not listed in Appendix 2-1 must notify the Division (NCAC, T15A:02B.0508(c)(1) and .0508(d)).</p> <p>2-5. Installations with NPDES permits must use laboratories that meet qualified standards (NCAC, T15A:02B.0505(e)(5)).</p> <p>2-6. Installations with NPDES permits must meet specific reporting standards (NCAC, T15A:02B.0506(a)(1)(A), (a)(1)(C), and (b)).</p>	<p>Verify that the interval between the collection of influent grab samples is no greater than 1 h.</p> <p>Verify that the interval between the collection of effluent grab samples is no greater than 1 h (except when the wastewater detention is greater than 24 h).</p> <p>Verify that when the wastewater detention time is greater than 24 h, the interval between effluent grab samples is no greater in number of hours than the detention time in number of days.</p> <p>Verify that in no case the interval between effluent grab samples is greater than 6 h nor the number of grab samples is less than four during any 24-h discharge period.</p> <p>(NOTE: Water pollution control facilities that receive wastes from sources with a SIC must meet the monitoring frequencies and sampling location requirements for that specific SIC number as specified in the permit.)</p> <p>Verify that a water pollution control facility that receive wastes from a source with a SIC number that is not listed in Appendix 2-1 has notified the Division.</p> <p>(NOTE: The Director will prescribe the monitoring requirements for the water pollution control facility.)</p> <p>Verify that the installation uses laboratories certified by the Division or are adequately equipped and staffed by person(s) competent to perform the permit-required analytical tests.</p> <p>Verify that the installation files monthly monitoring reports within 30 days after the end of the reporting period.</p> <p>Verify that copies of all reports submitted to the Director are retained by the installation for a period of at least 3 yr from the date of submission.</p>

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

**REGULATORY
REQUIREMENTS:**

REVIEWER CHECKS:

2-6. (continued)

Verify that the following information is submitted in the monthly monitoring reports:

- the name of person or group collecting sample or making observation
- the name of person or group that analyzed sample
- the name of operator in responsible charge of the facility and the grade certificate held
- the sampling point for each sample
- the date and time at which each grab sample was collected
- the date on which collection of composite samples commences and the time of starting and ending composite sample period
- wastewater flow in millions gal/day
- the results of analyses
- the results of all tests on the characteristics of the effluent, including but not limited to NPDES Permit Monitoring Requirements
- the monthly average of analysis for each parameter and the maximum and minimum values for the month.

2-7. Installations with NPDES permits must meet reporting standards for occurrences that endanger the public or the environment (NCAC, T15A: 02B.0506(a)(2) through (a)(4)).

Determine if the installation has had any occurrences of the following events:

- a pumping station or treatment facility failure that results in an untreated bypass directly to receiving waters
- a facility occurrence that results in the discharge of significant amounts of wastes that are abnormal in quantity or characteristic such as the dumping of the contents of a sludge digester, the known passage of a slug of hazardous substance through the facility, or any other unusual circumstances
- a process unit failure that renders the facility incapable of adequate wastewater treatment, such as mechanical or electrical failures of pumps, aerators, compressors.

Verify that the installation reports to either the central office or appropriate regional office of the Division within 24 h or on the next working day after the occurrence or first knowledge of the occurrence.

(NOTE: Water pollution control facilities with an occurrence that also may endanger the public health, or fish or wildlife must notify the central office or appropriate regional office of the Division as soon as possible.)

Verify that a written report is submitted within 15 days following the first knowledge of the occurrence and includes the following:

- designation of facility and location
- the class assigned to the water pollution control facility
- the number assigned by the Department of Natural Resources and Community Development to the permit or other approval document issued by the Environmental Management Commission under the discharge made.

COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>FACILITIES WITH WASTES NOT DISCHARGED TO SURFACE WATERS</p> <p>2-8. Installations with facilities that discharge wastes onto or below land surface but not to surface waters of the state must have a valid permit (NCAC, T15A: 02H.0201 and .0202).</p>	<p>Verify that an installation that constructs, alters, extends, or operates one of the following systems and discharges the wastes onto or below the land surface (but not to surface waters of the state) has a valid permit for:</p> <ul style="list-style-type: none"> - sewer systems - disposal systems - treatment works - residual and residue disposal/utilization systems - animal waste management systems - treatment of petroleum contaminated soils.
<p>FACILITIES WITH WASTES DISCHARGED TO SURFACE WATERS</p> <p>2-9. Installations that discharge waste to the surface waters of the state or discharge wastes that require pretreatment to another treatment works must have a valid NPDES permit (NCAC, T15A: 012H.0102 and .0127).</p>	<p>Determine if the installation conducts any of the following activities:</p> <ul style="list-style-type: none"> - discharges wastes to surface waters of the state - has a treatment or pretreatment works that discharges wastes to the surface waters of the state - discharges stormwater that results in water pollution. <p>Verify that the installation has a valid permit for the discharge.</p> <p>Verify that the terms and conditions of the permit are met.</p>

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

**REGULATORY
REQUIREMENTS:**

REVIEWER CHECKS:

EFFLUENT LIMITS

2-10. Installations with municipal wastewaters treatment discharges and discharges consisting primarily of sewage must meet specific effluent standards (NCAC, T15A: 02B.0406(a)).

Verify that municipal wastewater treatment discharges and discharges consisting primarily of domestic sewage with the exception of waste stabilization ponds meet the following effluent standards:

- 5-day biochemical oxygen demand (BOD₅), monthly average of 30 mg/L and a weekly maximum average of 45 mg/L
- total suspended solids, monthly average of 30 mg/L and a weekly maximum average of 45 mg/L.

(NOTE: Waste stabilization ponds that have a maximum design capacity of two million gal/day, are used as the sole secondary treatment process, and cannot meet BOD₅ and TSS effluent standards are allowed to meet the following alternative effluent standards: (a) BOD₅, monthly average of 30 mg/L and a weekly average of 45 mg/L; (b) TSS, monthly average of 90 mg/L and a weekly maximum average 135 mg/L.)

**SEWAGE
TREATMENT AND
DISPOSAL
SYSTEMS**

2-11. Installations with sewage systems that do not discharge to land or surface waters must meet permit standards (North Carolina Statutes 130A-336 and 337; NCAC, T10: 10A.1937(a), .1961 (b)(4), Tables V(a) and V(b)).

(NOTE: This section covers the treatment and disposal of domestic type sewage from septic tank systems, privies, incinerating toilets, mechanical toilets, composting toilets, recycling toilets, or other systems serving single or multiple family residences, places of business, or public assembly that do not discharge to the land surface or surface waters.)

Verify that an installation that constructs, locates, or relocates a residence or a place of public assembly in an area not served by an approved wastewater system has obtained an improvement permit from the local health department.

Verify that no system of wastewater collection, treatment, or disposal is covered or placed into use without an approved inspection by the local health department.

Verify that the sewage system meets the permit, monitoring frequency, and reporting standards specified in Appendix 2-2 and 2-3.

Verify that if the installation is subject to the requirements of Appendix 2-4, the installation meets the following additional sewage system standards:

- report the results of the inspections to the local health department
- notify the local health department within 48 h when inspections indicate the need for system repairs to obtain an Improvement Permit for the repairs.

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>2-12. Installations with sanitary sewage systems that are required to be designed by a registered professional engineer must be inspected annually (NCAC, T10: 10A.1937(h) and .1938 (d)).</p>	<p>Verify that if the installation has a sanitary sewage systems that meet any of the following criteria, the system was designed by a registered professional engineer:</p> <ul style="list-style-type: none"> - systems designed to handle over 3000 gal/day [11,356.24 L/day] except for individual septic tanks that serve an individual dwelling unit or several individual septic tank systems that each serve an individual dwelling unit - systems that require pretreatment, other than by a conventional septic tank, before disposal - systems that require the use of sewage pumps prior to the septic tank or other pretreatment system except for systems subject to the North Carolina Plumbing Code - systems that require the use of more than one pump or siphon - systems that include a collection sewer, prior to the septic tank or other pretreatment system that serves two or more buildings except for systems subject to the North Carolina Plumbing Code - systems that include structures that have not been pre-engineered - any other system serving a business or multi-family dwelling so specified by the local health department. <p>Verify that sanitary sewage systems that exceed 3000 gal/day [11,356.24 L/day] and other systems that are required to be designed by a professional engineer are re-inspected annually.</p>
<p>2-13. Installations with sewage collection, treatment, and disposal systems must meet public health hazard standards (NCAC, T10: 10A.1961 (c)).</p>	<p>Verify that sewage collection, treatment, and disposal systems deemed to be public health hazard or nuisance by the state or local health department are repaired within 30 days of written notification unless the notification specifies an alternative repair period.</p> <p>Verify that sewage collection, treatment, and disposal systems that have been disconnected are repaired prior to reuse.</p> <p>Verify that sewage collection, treatment, and disposal systems that are not repairable are not used.</p>
<p>2-14. Installations with nonground absorption sewage treatment systems must meet permit and approval standards (NCAC, T10: 10A.1958 (d) and (e)).</p>	<p>Verify that chemical or portable toilets for human wastes have an operation permit from the local health department.</p> <p>Verify that chemical or portable toilets have a watertight waste receptacle constructed of nonabsorbent, acid resistant, noncorrosive material.</p> <p>Verify that the chemical or portable toilet waste collected is discharged into an approve sewage treatment and disposal system.</p>

COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
2-14. (continued)	<p>Verify that the following nonground absorption sewage treatment systems are approved by the state agency or local health department:</p> <ul style="list-style-type: none"> - incinerating, composting, vault privies, or mechanical toilets - sewage recycling systems that discharge treated wastewater the meets the state drinking water standards.
<p>2-15. Installations with privies must meet specific maintenance standards (NCAC, T10: 10A.1960).</p>	<p>Verify that privies meet the following maintenance standards:</p> <ul style="list-style-type: none"> - the privy building has a reasonable degree of protection from bad weather conditions - the privy building is moved to a new pit when the old becomes filled to within 18 in. [45.72 cm] of the top of the ground and the old pit is completely covered with earth - a new pit is provided if the pit caves in - the walls, floors, and privy seat and grounds immediately adjacent to the building are kept in a clean and decent condition - fowl and other animals are not harbored in the privy building - seat covers are hinged and closed at all times when the privy is not in use - flies are excluded from the pit at all times - ashes, garbage, and trash are kept out of the pit.
<p>2-16. Installations with a ground absorption sewage treatment and disposal system must meet specific maintenance standards (NCAC, T10: 10A.1961 (a)).</p>	<p>Verify that ground absorption sewage treatment and disposal systems are maintained at all times to prevent seepage or discharge of sewage or effluent to the surface of the ground or to surface waters.</p> <p>Verify that ground absorption sewage treatment and disposal systems are checked and the contents of the septic tank are removed periodically to ensure proper operation.</p>

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

**REGULATORY
REQUIREMENTS:**

REVIEWER CHECKS:

**SURFACE WATER
QUALITY
STANDARDS**

**Class C
Surface Waters**

2-17. Installations with fresh surface waters (Class C) must meet specific surface water quality standards (NCAC, T15A: 02B.0211(b)(3) (A) through (H), (J), and (K)).

(NOTE: Water quality standards relate to the condition of waters as affected by the discharge of sewage, industrial wastes or other wastes including those from nonpoint sources and other sources of water pollution. Mixing zones standards are established by the Division on a case-by-case basis and not included in the water quality standards.)

Determine if the installation has fresh Class C surface waters.

Verify that an installation that has lakes, reservoirs, or other slow-moving waters designated as Class C surface waters meets the following chlorophyll standards:

- chlorophyll levels do not exceed 40 µg/L for waters not designated as trout waters
- chlorophyll levels do not exceed 15 µg/L for lakes, reservoirs, and other slow-moving waters covering ten or more acres in surface area and designated as trout waters.

Verify that Class C surface waters meet the following dissolved oxygen levels:

- not less than 6.0 mg/L for trout waters
- a daily average not less than 5.0 mg/L for nontrout waters with a minimum instantaneous value of not less than 4.0 mg/L.

(NOTE: Swamp waters, lake coves or backwaters, and lake bottom waters may have lower values if caused by natural conditions.)

Verify that Class C surface waters do not exceed the following fecal coliform standards:

- a geometric mean of 200/100 mL (membrane filter (MF) count) based upon at least five consecutive samples examined during any 30-day period
- 400/100 mL in more than 20 percent of the samples examined during the period.

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

**REGULATORY
REQUIREMENTS:**

REVIEWER CHECKS:

2-17. (continued)

Verify that Class C surface waters meet the following additional water quality standards:

- floating solids, settleable solids, sludge deposits attributable to sewage, industrial wastes or other wastes in amounts that do not make the water unsafe or unsuitable for aquatic life, wildlife or impair the waters for any designated use
- oils, deleterious substances, colored or other wastes in amounts that do not cause the following:
 - render the waters injurious to public health, secondary recreation or to aquatic life and wildlife
 - adversely affect the palatability of fish
 - adversely affect the aesthetic quality or impair the waters for any designated uses
- no substances that cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines.

Verify that Class C surface waters have a total dissolved gasses level that is not greater than 110 percent of saturation.

Verify that Class C surface waters meet the following water quality standards for pH levels:

- the pH has a range between 6.0 and 9.0 (swamp waters that may have a pH as low as 4.3 if it is the result of natural conditions)
- phenolic compounds in levels that do not result in fish-flesh tainting or impairment of other best usage.

Verify that Class C surface waters meet the following temperature standards:

- does not exceed 2.8 °C (5.04 °F) above the natural water temperature
- does not exceed 29 °C (84.2 °F) for mountain and upper piedmont waters
- does not exceed 32 °C (89.6 °F) for lower piedmont and coastal plain waters
- for trout waters, the temperature is not increased by more than 0.5 °C (0.9 °F) due to the discharge of heated liquids but in no case exceeds 20 °C (68 °F).

Verify that Class C surface waters meet the following standards for turbidity levels:

- receiving waters not designated as trout waters do not exceed 50 Nephelometric turbidity units (NTUs) in streams
- lakes and reservoirs not exceed 25 NTU
- receiving waters designated as trout waters do not exceed 10 NTU in streams, lakes, or reservoirs.

(NOTE: Turbidity may exceed these levels due to natural background conditions.)

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

**REGULATORY
REQUIREMENTS:**

REVIEWER CHECKS:

2-18. Installations with Class C surface waters must meet specific standards for radioactive substance (NCAC, T15A: 02B.0211(b)(3)(I)).

Verify that Class C surface waters meet the following standards for radioactive substances:

- the maximum average annual activity level based on at least four samples collected quarterly of combined radium-226 and radium-228 does not exceed 5 pCi/L
- the average annual gross alpha particle activity including radium-226 but excluding radon and uranium does not exceed 15 pCi/L
- the maximum average annual activity level based on at least four samples collected quarterly for strontium-90 does not exceed 8 pCi/L
- the average annual gross beta particle activity excluding potassium and other naturally occurring radionuclides do not exceed 50 pCi/L
- the maximum average annual activity level for tritium does not exceed 20,000 pCi/L.

2-19. Installations with Class C surface waters must meet specific standards for toxic substance (NCAC, T15A: 02B.0211(b)(3)(L)).

Verify that Class C surface waters do not exceed the levels for toxic substances specified in Appendix 2-4.

**Class WS-I
Surface Waters**

2-20. Installations with Class WS-I Waters must meet specific water quality standards (NCAC, T15A: 02B.0211(c)(3)).

Determine if the installation has surface waters designated as Class WS-I Waters.

Verify that Class WS-I surface waters meet the following water quality standards:

- nonpoint source pollution does not adversely impact the water for use as a waters supply or for any other designated use
- total coliforms do not exceed 50/100 mL (MF count) as a monthly geometric mean value in the watersheds serving as unfiltered water supplies
- concentrations of phenolic compounds do not exceed 1.0 µg/L (phenols)
- total dissolved solids are not greater than 500 mg/L
- total hardness is not greater than 100 mg/L as calcium carbonate.

Verify that Class WS-I surface waters do not exceed the levels for toxic or other deleterious substances specified in Appendix 2-5.

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>Class WS-II, WS-III, WS-IV, and WS-V Surface Waters</p> <p>2-21. Installations with either Class WS-II, WS-III, WS-IV, or WS-V waters must meet specific water quality standards (NCAC, T15A: 02B.0211(d)(3), (e)(3), (f)(3), and (g)(3)).</p>	<p>Determine if the installation has surface waters designated as either Class WS-II, WS-III, WS-IV, or WS-V waters.</p> <p>Verify that the surface waters meet the following general standards:</p> <ul style="list-style-type: none"> - nonpoint source and stormwater pollution does not adversely impact the waters for use as a water supply or for any other designated use - odor producing substances from sewage or other wastes do not cause taste and odor difficulties in water supplies that cannot be corrected by treatment, impair the palatability of fish, or have a deleterious effect upon any best usage established for the specific class of water - concentrations of phenolic compounds do not exceed 1.0 µg/L (phenols) - total dissolved solids are not greater than 500 mg/L - total hardness is not greater than 100 mg/L as calcium carbonate. <p>Verify that Class WS-II, WS-III, WS-IV, or WS-V surface waters do not exceed the levels for toxic or other deleterious substances specified in Appendix 2-5 for Class WS-I surface waters.</p>
<p>Class B Surface Waters</p> <p>2-22. Installations with Class B surface waters must meet specific coliform standards (NCAC, T15A: 02B.0211(h)(3)).</p>	<p>Verify that Class B surface waters do not exceed the following fecal coliform levels:</p> <ul style="list-style-type: none"> - a geometric mean of 200/100 mL (MF count) based on at least five consecutive samples examined during any 30-day period - 400/100 mL in more than 20 percent of the samples during the 30-day period.

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>Class SC Tidal Salt Surface Waters</p> <p>2-23. Installations with tidal salt waters (Class SC) must meet specific surface water quality standards (NCAC, T15A: 02B.0212(b)(3) and (4)).</p>	<p>Determine if the installation has tidal salt waters (Class SC).</p> <p>Verify that Class SC surface waters do not exceed the following fecal coliform levels:</p> <ul style="list-style-type: none"> - a geometric mean of 200/100 mL (MF count) based upon at least five consecutive samples examined during any 30-day period - 400/100 mL in more than 20 percent of the samples examined during the period. <p>Verify that Class SC surface waters meet the following surface water quality standards:</p> <ul style="list-style-type: none"> - chlorophyll levels do not exceed 40 mg/L in sounds, estuaries, and other slow-moving waters - dissolved oxygen levels are not less than 5.0 mg/L except for swamp waters, poorly flushed tidally influenced streams or embayments, or estuarine bottom waters, provided that lower dissolved oxygen levels are caused by natural conditions - total dissolved gasses are not greater than 110 percent of saturation - pH has a range between 6.0 and 9.0 except for swamp waters that may have a pH as low as 4.3 if it is the result of natural conditions - phenolic compounds only in levels that will not result in fish-flesh tainting or impairment of other best usage - the turbidity level in the receiving water does not exceed 25 NTUs. <p>(NOTE: Turbidity may exceed these levels due to natural background conditions.)</p> <p>Verify that Class SC surface waters meet the following health and safety water quality standards:</p> <ul style="list-style-type: none"> - floating solids, settleable solids, sludge deposits attributable to sewage, industrial wastes or other wastes only in amounts that do not make the water unsafe or unsuitable for aquatic life or for any designated use - oils, deleterious substances, colored or other wastes in amounts that do not cause any of the following: <ul style="list-style-type: none"> - render the waters injurious to public health, secondary recreation or to aquatic life and wildlife - adversely affect the palatability of fish - adversely affect the aesthetic quality or impair the waters for any designated uses - do not cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines.

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

**REGULATORY
REQUIREMENTS:**

REVIEWER CHECKS:

2-23. (continued)

Verify that Class SC surface waters meet the following standards for radioactive substances:

- the maximum average annual activity level based on at least four samples collected quarterly of combined radium-226 and radium-228 does not exceed 5 pCi/L
- the average annual gross alpha particle activity including radium-226 but excluding radon and uranium does not exceed 15 pCi/L
- the maximum average annual activity level based on at least four samples collected quarterly for strontium-90 does not exceed 8 pCi/L
- the average annual gross beta particle activity excluding potassium and other naturally occurring radionuclides do not exceed 50 pCi/L
- the maximum average annual activity level for tritium does not exceed 20,000 pCi/L.

Verify that the installation does not increase the temperature of Class SC surface waters above the natural water temperature by more than the following:

- 0.8 °C (1.44 °F) during the months of June, July, and August
- 2.2 °C (3.96 °F) during other months
- not to exceed 32 °C (89.6 °F) due to the discharge of heated liquids.

Verify that Class SC surface waters do not exceed the levels for toxic substances specified in Appendix 2-6.

**Class SA and SB
Surface Waters**

2-24. Installations with Class SA or SB surface waters must meet specific water quality standards (NCAC, T15A: 02B(c) (3) and (d)(3)).

Determine if the installation has Class SA or SB surface waters.

Verify that Class SA and Class SB surface waters have no floating solids, settleable solids, sludge deposits attributable to sewage, industrial wastes, or other wastes.

Verify that Class SA surface waters do not exceed the following fecal coliform standards:

- a median MF value of 14/100 mL
- not more than 10 percent of the samples exceed an MF count of 43/100 mL in those areas most probably exposed to fecal contamination during the most unfavorable hydrographic and pollution conditions.

COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
2-24. (continued)	Verify that Class SB surface waters do not exceed the following fecal coliform standards: <ul style="list-style-type: none"> - a geometric mean of 200/100 mL (MF count) based on at least five consecutive samples examined during any 30-day period - 400/100 mL in more than 20 percent of the samples examined during the 30-day period.
DISCHARGES TO GROUNDWATER	
2-25. Installations that discharge waste, hazardous substances, or oil to the groundwaters of the state must take immediate action (NCAC, T15A: 02L.0106(b), (c), .0107(a), (b), (c), (h), and .0108).	<p>Verify that an installation that conducts or controls an activity that results in the discharge of a waste, hazardous substance, or oil to the groundwaters of the state immediately takes the following actions:</p> <ul style="list-style-type: none"> - termination and control of the discharge - mitigation of any hazards resulting from exposure to the pollutants - notification of the Department of the discharge. <p>Verify that an installation that conducts or controls any activity that results in an increase in the concentration of a substance in excess of the groundwater standards takes the following actions:</p> <ul style="list-style-type: none"> - assess the cause, significance and extent of the violation - submit a plan and schedule for eliminating the source of contamination and for the restoration of groundwater quality - implement an approved plan in accordance with a schedule established by the Director.

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
2-25. (continued)	<p>Verify that an installation that conducts or controls any permitted activity that results in an increase in the concentration of a substance in excess of the groundwater standards takes the following actions where the concentrations were detected:</p> <ul style="list-style-type: none"> - at or beyond a review boundary either: <ul style="list-style-type: none"> - demonstrate to the Director that natural site conditions, facility design and operational controls will prevent a violation of the standards at the compliance boundary - submit a plan for the prevention of a violation at the compliance boundary and implement the plan upon Director approval - at or beyond a compliance boundary: <ul style="list-style-type: none"> - assess the cause, significance and extent of the violation - submit a plan and schedule for eliminating the source of contamination and for restoration of groundwater quality - implement an approved plan in accordance with a Director established schedule. <p>(NOTE: Review boundaries and compliance boundaries are determined by the Director at the time of permit issuance or as follows:</p> <ul style="list-style-type: none"> - disposal systems permitted prior to 30 December 1983, a compliance boundary at a horizontal distance of 500 ft [152.40 m] from the waste boundary or at the property boundary, which ever is closer to the source - disposal systems permitted on or after 30 December 1983, a compliance boundary is 250 ft [76.22 m] from the waste boundary, or 50 ft [15.24 m] within the property boundary whichever is closer to the source - ground absorption sewage treatment and disposal system, the compliance boundary is the property boundary - review boundaries are established around any disposal system midway between the compliance boundary and the waste boundary.)
<p>2-26. Groundwaters classified as GA, GSA, or GC must meet specific standards (NCAC, T15A: 02L. 0202(a), (b)(3), and (g) through (i)).</p>	<p>Determine if the installation discharges contaminants to the land or waters of the state.</p> <p>Verify that an installation with Class GA groundwater does not exceed the limits specified in Appendix 2-7.</p> <p>(NOTE: When naturally occurring substances exceed the established groundwater standard, the standard will be the naturally occurring concentrations as determined by the Director.)</p> <p>Verify that an installation with Class GSA groundwaters meets the following standards:</p> <ul style="list-style-type: none"> - chloride does not exceed 100 percent of the natural quality concentration - total dissolved solids do not exceed 100 mg/L - do not exceed all other Class GA groundwater standards.

COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
2-26. (continued)	Verify that an installation with Class GC groundwaters meets the following standards: <ul style="list-style-type: none"> - the concentrations of substances, at the time of classification that exceed water quality standards are not increased - the concentrations for all other substances that do not exceed the water quality standards are not increased to exceed the standard - adjoining waters of a different class are not caused to exceed water quality standards.
WELL STANDARDS	
2-27. Installations that construct wells must meet permit standards (NCAC, T15A: 02C.0105(b)).	Verify that the installation has a valid permit prior to constructing any of the following wells: <ul style="list-style-type: none"> - water wells or well systems with a design capacity of 100,000 gal/day [378,541.20 L/day] or greater - any wells added to an existing system with a total design capacity including the additional well equals or exceeds 100,000 gal/day [378,541.20 L/day] - any monitoring well constructed to assess the impact of an activity not permitted by the state when installed on property other than that on which the unpermitted activity took place - any recovery well - any well intended for the recovery of minerals or ores - any oil or gas exploration or recovery well - any well for recharge or injection purposes.
2-28. Installations with monitoring wells or recovery wells must meet specific standards (NCAC, T15A: 02C.0108(c)(1)(G), (H), (K), and (c)(2)(D), (E), (H)).	Verify that monitoring wells or recovery wells used to sample groundwater, other liquids, or recover polluted groundwater or wells that measure groundwater levels meet the following safety standards: <ul style="list-style-type: none"> - wells are secured to reasonably insure against unauthorized access and use - wells are protected against damage during construction and use. <p>(NOTE: Wells used to measure groundwater levels do not need to be secured against unauthorized access if the wells are not left unattended such as during a well capacity or aquifer capacity test.)</p>

COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
2-28. (continued)	<p>Verify that each well has a permanently affixed identification plate constructed of durable material that contains the following information:</p> <ul style="list-style-type: none"> - drilling contractor name and registration number - date well completed - total depth of well - a warning that the well is not for water supply and the groundwater may contain contaminants - well used to sample groundwater or other liquids has the depth(s) to screen(s).
2-29. Installations with wells must meet well maintenance standards (NCAC, T15A: 02C.0112).	<p>Verify that wells are maintained in a condition so that groundwater resources are conserved and protected and are not a source or channel of contamination or pollution to the water supply or any aquifer.</p> <p>Verify that all materials used in the maintenance, replacement or repair of any well meets the requirement for new installation.</p> <p>Verify that broken, punctured or otherwise defective or unserviceable casing, screens, fixtures, seals, or any part of the well head is repaired or replaced or the well is properly abandoned.</p>
2-30. Installations must meet well abandonment standards (NCAC, T15A: 02C.0113(a) and (b)).	<p>Verify that wells that are temporarily abandoned meet the following standards:</p> <ul style="list-style-type: none"> - upon temporary removal from service or prior to being put into service, the well is sealed with a water-tight cap or seal compatible with casing and installed so that it cannot be removed easily by hand - the well is maintained so as not to become a source or channel of contamination - the well is protected with a casing. <p>Verify that wells that are permanently abandoned meet the following standards:</p> <ul style="list-style-type: none"> - casing that is not grouted is removed or properly grouted - the entire depth of the well is sounded before it is sealed to ensure freedom from obstructions that could interfere with sealing operations - well is thoroughly disinfected prior to sealing. <p>Verify that any well that acts as a source or channel of contamination is repaired or permanently abandoned within 30 days or receipt of notice from the Department.</p>

**COMPLIANCE CATEGORY:
CLEAN WATER ACT (CWA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>2-31. Installations with wells must meet reporting standards (NCAC, T15A: 02C.0114(b)).</p> <p>WATER USE PERMITS</p> <p>2-32. Installations that withdraw more than 100,000 gal/day [378,541.20 L/day] must meet water use permit conditions (NCAC, T15A: 02E.0202(a)(1)).</p> <p>2-33. Installations that withdraw 1,000,000 gal/day [378,541.20 L/day] or more of water must meet specific monitoring and reporting standards (NCAC, T15A: 02E.0202(c)(2) and (c)(3)).</p> <p>2-34. Installations that construct or install works of improvement that may significantly affect water resources must have prior approval (NCAC, T15A: 02E.0205).</p>	<p>Verify that an installation that has completed or abandoned a well has submitted a record of the construction or abandonment to the Division within 30 days.</p> <p>Verify that an installation with public water supply wells have submitted an additional copy of construction or abandonment to the Health Department responsible for the county in which the well is located.</p> <p>Determine if the installation withdraws or utilizes surface waters, groundwaters, or both in excess of 100,000 gal/day [378,541.20 L/day].</p> <p>Verify that the installation has a valid water use permit.</p> <p>Verify that the terms and conditions of the permit are met.</p> <p>Verify that the installation submits monthly reports of daily withdrawals from each well or surface-water intake within 15 days after the end of each calendar month.</p> <p>Determine if the installation has a water use permit and withdraws more than 1,000,000 gal/day [378,541.20 L/day].</p> <p>Verify that the installation measures water withdrawals with an approved metering device that is equipped with an automatic chart recorder accurate to plus or minus 5 percent.</p> <p>Verify that the installation submits monthly water level reports to the Director within 15 days after the end of each calendar month.</p> <p>Verify that an installation that constructs or installs surface drainage projects, subsurface drainage projects, excavation projects, or similar projects that may significantly affect water quality has prior approval from the Commission.</p>

Appendix 2-1

SIC Number Groups

(Source: NCAC, Title 15, Chapter 2B, Section .0508(d))

SIC Number	Major Products or Services
0200-0299	Agricultural Production - Livestock
1400-1499	Mining
2000-2099	Food and Beverage Processing
2100-2199	Tobacco Processing
2200-2299	Textile Processing
2400-2499	Lumber and Wood Products Except Furniture
2500-2599	Manufacturing of Furniture and Fixtures
2600-2699	Paper and Allied Products
2800-2899	Chemical and Allied Products
2900-2999	Petroleum Refining and Related Industries
3100-3199	Leather and Leather Products
3400-3499	Fabricated Metal Products Except Ordnance: Machinery and Transportation Equipment
3500-3599	Machinery Except Electrical
3600-3699	Electrical Machinery, Equipment and Supplies
4600-4699	Pipe Line Transportation
4900-4999	Electric, Gas and Sanitary Services
7200-7299	Personal Services
7300-7399	Miscellaneous Business Service
7500-8599	Automobile Repairing Services and Garages
9999	Domestic Sewage

Appendix 2-2

Sewage Systems Permit Requirements

(Source: NCAC, Title 10, Subchapter 10A, Section .1961, Table V(a))

System Classification	System Description	Permits Required
Type I	<ul style="list-style-type: none"> a. Privy b. Chemical toilet c. Incinerating toilet d. Other toilet system e. Grease trap 	Improvement Permit and Operation Permit
Type II	<ul style="list-style-type: none"> a. Conventional septic system (single family or 480 gal/day or less) b. Conventional septic system with 750 linear feet of nitrification line or less c. Conventional system with shallow placement 	Improvement Permit and Certificate of Completion
Type III	<ul style="list-style-type: none"> a. Conventional septic system less than 480 gal/day (excluding single family residence) b. Septic system with single effluent pump or siphon c. Gravity fill system d. Dual gravity field system e. Prefabricated, permeable block panel system (PPBPS), gravity dosed f. Large diameter pipe system g. Other nonconventional trench system 	Improvement Permit and Operation Permit
Type IV	<ul style="list-style-type: none"> a. Any system with low pressure pipe (LPP) distribution b. System with more than 1 pump or siphon 	Improvement Permit and Operation Permit
Type V	<ul style="list-style-type: none"> a. Sand filter pretreatment system b. any septic tank system greater than 3000 gal/day with a nitrification field designed for greater than 1500 gal/day c. Aerobic Treatment Unit (ATU) d. Other mechanical, biological, or chemical pretreatment plant (less than 3000 gal/day) 	Improvement Permit and Operation Permit
Type VI	<ul style="list-style-type: none"> a. any system greater than 3000 gal/day with mechanical, biological or chemical pretreatment plan b. Wastewater reuse/recycle 	Improvement Permit and Operation Permit

Appendix 2-3

Sewage Systems that are a Public Management Entity Requirements

(Source: NCAC, Title 10, Subchapter 10A, Section .1961, Table V(b))

System Classification	Management Entity	Inspection Frequency	Reporting Frequency
Type IV	Public Management Entity with a Certified Operator or a Private Certified Operator	2/yr	12 mo
Type V (a) and (b)*	Public Management Entity with a Certified Operator or a Private Certified Operator	a) 2/yr (0 to 1500 gal/day) 4/yr (1500 to 3000 gal/day) 12/yr (3000 to 10,000 gal/day) 1/week (> than 10,000 gal/day) b) 12/yr (3000 to 10,000 gal/day) 1/week (> 10,000 gal/day)	6 mo
Type V (c) and (d)*	Public Management Entity with a Certified Operator	c) 4/yr d) 12/yr	6 mo
Type VI	Public Management Entity with a Certified Operator	a) 1/week (3000 to 10,000 gal/day) 2/week (10,000 to 25,000 gal/day) 3/week (25,000 to 50,000 gal/day) 5/week (> 75,000 gal/day) b) 12/yr	3 mo

* NOTE: Type V (a) through (d) refers to the descriptions of systems in Appendix 2-3.

Appendix 2-4

Class C Surface Water Quality Standards

(Source: NCAC, Title 15A, Subchapter 2B, Section .0211(b)(3)(L))

Constituent	Concentrations
arsenic	50.0 µg/L
beryllium	6.5 µg/L
cadmium for trout waters for non-trout waters	0.4 µg/L 2.0 µg/L
chlorine (total residual)*	17.0 µg/L
chromium (total recoverable)	50.0 µg/L
cyanide	5.0 µg/L
fluorides	1.8 mg/L
lead (total recoverable)	25.0 µg/L
MBAS (methylene-blue active substances)	0.5 mg/L
mercury	0.012 µg/L
nickel	88.0 µg/L
polychlorinated biphenyls	0.001 µg/L
selenium	5.0 µg/L
toluene for trout waters for non-trout waters	0.36 µg/L 11.0 mg/L
trialkyltin compounds (expressed as tributyltin)	0.008 µg/L
Pesticides:	
aldrin	0.002 µg/L
chlordane	0.004 µg/L
DDT	0.001 µg/L
endrin	0.002 µg/L
guthion	0.01 µg/L

* Chlorine levels apply to trout waters with an action level of 17 µg/L and all nontrout waters.

(continued)

Appendix 2-4 (continued)

Constituent	Concentrations
Pesticides (continued):	
heptachlor	0.004 µg/L
lindane	0.01 µg/L
methoxychlor	0.03 µg/L
mirex	0.001 µg/L
parathion	0.013 µg/L
toxaphene	0.0002 µg/L
endosulfan	0.05 µg/L
demeton	0.1 µg/L
dieldrin	0.002 µg/L

Appendix 2-5

Class WS-I Surface Water Quality Standards (Source: NCAC, Title 15A, Subchapter 2B, Section .0211(c)(3))

Constituent	Concentrations
Noncarcinogens:	
barium	1.0 mg/L
chloride	250.0 mg/L
manganese	200.0 µg/L
nickel	25.0 µg/L
nitrate nitrogen	10.0 mg/L
2,4-D	100.0 µg/L
2,4,5-TP (silvex)	10.0 µg/L
Carcinogens:	
beryllium	6.8 ng/L
benzene	1.19 µg/L
carbon tetrachloride	0.254 µg/L
chlorinated benzenes	488.0 µg/L
dioxin	0.000013 ng/L
hexachlorobutadiene	0.445 µg/L
polynuclear aromatic hydrocarbons	2.8 ng/L
tetrachloroethane (1,1,2,2)	0.172 µg/L
tetrachloroethylene	0.8 µg/L
trichloroethylene	3.08 µg/L
DDT	0.588 ng/L
dieldrin	0.135 ng/L
heptachlor	0.208 ng/L
vinyl chloride	2.0 µg/L
aldrin	0.127 ng/L
chlordane	0.575 ng/L

Appendix 2-6

Class SC Surface Water Quality Standards

(Source: NCAC, Title 15A, Subchapter 2B, Section .0212(b)(3))

Constituent	Concentrations
arsenic (total recoverable)	50.0 µg/L
cadmium	5.0 µg/L
chromium (total)	20.0 µg/L
cyanide	1.0 µg/L
lead (total recoverable)	25.0 µg/L
mercury	0.025 µg/L
nickel	8.3 µg/L
polychlorinated biphenyls	0.001 µg/L
selenium	71.0 µg/L
trialkyltin compounds (expressed as tributyltin)	0.002 µg/L
Pesticides:	
aldrin	0.003 µg/L
chlordane	0.004 µg/L
DDT	0.001 µg/L
demeton	0.1 µg/L
dieldrin	0.002 µg/L
endosulfan	0.009 µg/L
endrin	0.002 µg/L
guthion	0.01 µg/L
heptachlor	0.004 µg/L
lindane	0.004 µg/L
methoxychlor	0.03 µg/L
mirex	0.001 µg/L
parathion	0.178 µg/L
toxaphene	0.0002 µg/L

Appendix 2-7

Class GA Water Quality Standards

(Source: NCAC, Title 15A, Subchapter 2L, Section .0202 (g))

Constituent	Concentrations (mg/L)
acrylamide (propenamide)	0.00001
arsenic	0.05
barium	1.0
benzene	0.001
bromoform (tribromomethane)	0.00019
cadmium	0.005
carbofuran	0.036
carbon tetrachloride	0.0003
chlordane	2.7×10^{-5}
chloride	250.0
chlorobenzene	0.3
chloroform (trichloromethane)	0.00019
2-chlorophenol	0.0001
chromium	0.05
cis-1,2-dichloroethene	0.07
coliform organisms (total)	1/100 mL
color	15.0 color units
copper	1.0
cyanide	0.154
2,4-D (2,4-dichlorophenoxy acetic acid)	0.07
1,2-dichlorodifluoromethane (Freon-12; Halon)	0.00019
1,2-dichloroethane (ethylene dichloride)	0.00038

(continued)

Appendix 2-7 (continued)

1,1-dichloroethylene (vinylidene chloride)	0.007
1,2-dichloropropane	0.00056
p-dioxane (1,4-diethylene diox- ide)	0.007
dioxin	2.2×10^{-10}
dissolved solids (total)	500.0
endrin	0.0002
epichlorohydrin (1-chloro-2,3-epoxypropane)	0.00354
ethylbenzene	0.029
ethylene dibromide (EDB; 1,2-dibromoethane)	0.05×10^{-5}
ethylene glycol	7.0
fluoride	2.0
foaming agents	0.5
gross alpha particle activity (including radium-226, excluding radon and uranium)	15.0 pCi/L
heptachlor	7.6×10^{-5}
hexachlor epoxide	3.8×10^{-5}
hexachlorobenzene (perchlorobenzene)	0.00002
n-hexane	14.3
iron	0.3
lead	0.05
lindane	2.65×10^{-5}
manganese	0.05
mercury	0.0011
metadichlorobenzene (1,3-dichlorobenzene)	0.62
methoxychlor	0.1
methyl ethyl ketone (MEK; 2-butanone))	0.17
methylene chloride (dichloromethane)	0.005
methyl tert-butyl ether	0.2
nickel	0.15

(continued)

Appendix 2-7 (continued)

nitrate (as N)	10.0
orthodichlorobenzene (1,2-dichlorobenzene)	0.62
oxamyl	0.175
paradichlorobenzene (1,4-dichlorobenzene)	0.0018
pentachlorophenol	0.22
pH	6.5 - 8.5 units
radium-226 and radium-228 combined	5.0 pCi/L
selenium	0.01
silver	0.05
styrene (ethenylbenzene)	1.4×10^{-5}
sulfate	250.0
tetrachloroethylene (perchloroethylene; PCE)	0.0007
toluene (methylbenzene)	1.0
toxaphene	3.1×10^{-5}
2,4,5-TP (silvex)	0.01
trans-1,2-dichloroethene	0.07
1,1,1-trichloroethane (methyl chloroform)	0.2
trichloroethylene (TCE)	0.0028
vinyl chloride (chloroethylene)	1.5×10^{-5}
xylene (o-, m-, and p-)	0.4
zinc	5.0

INSTALLATION:	COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 3

SAFE DRINKING WATER ACT (SDWA)

North Carolina Supplement

SECTION 3

SAFE DRINKING WATER ACT (SDWA)

North Carolina Supplement

The following Federal regulations have been adopted by reference:

- 40 Code of Federal Regulations (CFR) 141.4, Special Monitoring for Corrosivity Characteristics
- 40 CFR Subpart I, Control of Lead and Copper
- 40 CFR 141.23, Inorganic Chemicals Sampling and Monitoring
- 40 CFR 141.11, Maximum Contamination Levels for Inorganic Chemicals
- 40 CFR 141.62, Maximum Contaminant Levels for Inorganic Contaminants
- 40 CFR 141.24, Organic Chemicals other than Total Trihalomethanes Sampling and Analytical Requirements

(NOTE: The provision of 40 CFR 141.24(b) concerning reporting and analysis requirements for contaminants that exceed the maximum contaminant level (MCL) is not adopted.)

- 40 CFR 141.40, Special Monitoring for Inorganic and Organic Chemicals
- 40 CFR 141.12, Maximum Contaminant Levels for Organic Chemicals
- 40 CFR 141.61, Maximum Contamination Levels for Organic Contaminants
- 40 CFR 141.4, Variances and Exceptions
- 40 CFR 141.32, Public Notification
- 40 CFR 141.21, Coliform Sampling

(NOTE: The provision of 40 CFR 141.21(a)(2) concerning the reduction of monitoring frequency for community water systems serving 25 to 1000 persons is not adopted. The provision of 40 CFR 141.21(b)(3) concerning the collection of large volume repeat samples in containers of any size is not adopted. The provision of 40 CFR 141.21(c)(2) concerning waiver of the 24 h time limit for resampling is not adopted.)

- 40 CFR 141.63, Maximum Contaminant Levels for Microbiological Contaminants
- 40 CFR 141.70, General Requirements
- 40 CFR 141.73, Filtration
- 40 CFR 141.74, Analytical and Monitoring Requirements

(NOTE: The provisions of 40 CFR 141.74 are changed to read as follows: The residual disinfectant concentration shall be monitored continuously and the lowest value recorded each day, except if there is a failure in the continuous monitoring equipment, in which case grab samples every 4 h may be conducted in lieu of continuous monitoring for no more than 5 working days following the failure of the equipment. Systems serving 3300 or fewer persons may take grab samples in lieu of continuous monitoring an ongoing basis at the frequency of every 4 h.)

- 40 CFR 141.71, Criteria for Avoiding Filtration
- 40 CFR 141.75, Reporting and Recordkeeping Requirements
- 40 CFR 142.57, Bottled Water, Point-of Use, and Point-fainter Devices

- 40 CFR 142.62, Variances and Exceptions forms Maximum Contaminant Levels for Organic and Inorganic Compounds
- 40 CFR 141.34, Public Notice Requirements Pertaining to Lead

Definitions

The definitions contained in 40 CFR 141.2 are adopted by reference except for the following:

Disinfection
Maximum Contamination Level
Person
Public Water System
Supplier Of Water.

These definitions were taken from the North Carolina Safe Drinking Water Regulation.

- *Act* - the North Carolina Drinking Water Act.
- *Class I Reservoir* - a reservoir from which water flows by gravity or is pumped directly to a treatment plant or to a small intervening storage basement thence to a treatment plant.
- *Class II Reservoir* - a reservoir from which water flows by gravity or is pumped to a Class I resolver prior to entry to a water treatment plant.
- *Class III Reservoir* - a large impoundment used for electric power generation, flood control, and similar purposes, and which also serves as a raw water source for a community water system.
- *Cross Connection* - means:
 1. any physical connection between a potable water system and any other piping system, sewer fixture, container or device whereby water or other liquids, mixtures or substances may flow into or enter the public water system
 2. any potable water supply outlet which is submerged or is designed or intended to be submerged in a nonpotable water supply or any other source of contamination
 3. an air gap, providing a space between the potable water pipe outlet antes flood level rim of the receiving vessels less than twice the diameter of the potable water pipe.
- *Community Water System Intake* - the structure at the head of the conduit into which water is diverted from a stream or reservoir for transmission to water treatment facilities.
- *Commission* - the Commission for Health Services.
- *Department* - the Department of Environment, Health and Natural Resources.
- *Disinfection* - a process which inactivates pathogenic organisms in water.
- *Fecal Coliform* - bacteria consistently found in the intestine of man and other warm blooded animals which are not normally disease producing but serve as indicators of a fecal contamination.
- *Non-potable Water Supply* - water not approved for drinking or other household uses.

- *Potable Water Supply* - water which is approved for drinking or other household uses.
- *Public Water System* - a system for the provision to the public of piped water for human consumption. Systems serve 15 or more service connections or regularly serve 25 or more individuals. The term public water system includes:
 1. any collection, treatment, storage or distribution facility under the control of the operator of the system and used primarily in connection with the system
 2. any collection or pretreatment storage facility not under the control of the operator.

A public water system is either a community water system or a noncommunity water system as follows:

1. community water system means a public water system which serves 15 or more service connection which serves 25 or more year around residents
 2. noncommunity water system means a public water system which is not a community water system.
- *Raw water* - surface or groundwater which because of bacteriological or chemical quality, turbidity, color or mineral content makes it unsuitable for source water for a community water system.

SAFE DRINKING WATER ACT (SDWA)
GUIDANCE FOR NORTH CAROLINA CHECKLIST USERS

APPLICABILITY:	REFER TO CHECKLIST ITEMS:
Turbidity	3-1
Radionuclides	3-2 and 3-3
Disinfection	3-4
Operating Permits	3-5
Watershed Protection Program	3-6 and 3-7
Operation of Public Water Supplies	3-8 through 3-10
Fluoridation	3-11

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
TURBIDITY 3-1. Installations with community and noncommunity water systems must monitor for turbidity (North Carolina Administrative Code (NCAC), Title 15A, Subchapter 18C Section 0.01505 and 0.1506).	<p>Verify that community and noncommunity water systems which use surface water in whole or in part do not exceed the following MCLs for turbidity:</p> <ul style="list-style-type: none"> - 1 nephelometric turbidity unit (NTU) as determined by a monthly average, unless it can be shown that 5 NTU or less does not: - interfere with disinfection - interfere with microbiological determinations - prevent maintenance of a residual disinfection concentration in the distribution system - - 5 NTUs based on an average for two consecutive days. <p>(NOTE: The MCLs for turbidity are applied to unfiltered public water systems until 30 December 1991. If the Department determined that an unfiltered water system must install filtration, the maximum contaminant levels for turbidity are applied until 29 June 1993 or until filtration is installed.)</p> <p>Verify that samples are collected at representative entry points to the distribution system at least once a day.</p> <p>(NOTE: The Department may set a reduced sampling frequency if it will not pose a risk to public health and if the system maintains an active residual disinfectant in the distribution system.)</p> <p>Verify that if the MCL for turbidity has been exceeded, resampling occurs within 1 h.</p> <p>Verify that when the repeat sample exceeds the limit, the Department is notified within 48 h.</p> <p>Verify that when the monthly limit is exceeded, or if the average of two samples taken on consecutive days exceeds 5 NTU the Department and the public are notified.</p>
RADIONUCLIDES 3-2. Installations with community water systems must meet specific requirements for naturally occurring radionuclides (NCAC, Title 15A, Subchapter 18C Sections .1519 and .1520).	<p>Verify that the water system monitors for gross alpha particle activity at least once every 4 yr.</p> <p>(NOTE: The gross alpha particle activity measurement may be substituted for the required radium-226 and radium-228 analysis provided that the measured gross alpha particle activity does not exceed 5 pCi/L at a confidence level of 0.95 percent. In areas where radium-228 may be present in the water, the Department may require radium-226 and/or radium-228 monitoring if the gross alpha particle activity exceeds 2 pCi/L.)</p>

**COMPLIANCE CATEGORY:
SAFE DRINKING WATER ACT (SDWA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
3-2. (continued)	<p>Verify that when the gross alpha particle exceeds 5 pCi/L, the same or equivalent sample is analyzed for radium-226.</p> <p>Verify that when the concentration of radium-226 exceeds 3 pCi/L the same or an equivalent sample is analyzed for radium-228.</p> <p>Verify that the water system monitors a new water source after introduction.</p> <p>Verify that the installation conducts annual monitoring of any public water supply in which the radium-226 concentration exceeds 3 pCi/L.</p> <p>Verify that if the average annual MCL for gross alpha particle activity or total radium is exceeded, the installation notifies the Department and the public.</p> <p>Verify that when the average annual MCL for gross alpha particle activity or total radium is exceeded, monitoring continues at quarterly intervals until the annual average concentration no longer exceeds the MCL or until a another monitoring schedule is established.</p> <p>Verify that annual monitoring for strontium-90 and tritium is conducted by means of an analysis of a composite of four consecutive quarterly samples or analysis of 4 quarterly samples.</p> <p>Verify that if the gross beta particle activity in a sample exceeds 15 pCi/L, the same or equivalent sample is analyzed for strontium-89 and cesium-134.</p> <p>Verify that if the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample is performed to identify the major radioactive constituents present and the appropriate organ and total body doses must be calculated to determine compliance.</p> <p>Verify that for iodine-131 a composite of five consecutive daily samples is analyzed once each quarter.</p> <p>Verify that if the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample is performed to identify the major radioactive constituents present.</p> <p>Verify that the following MCLs for naturally occurring radionuclides are not exceeded:</p> <ul style="list-style-type: none"> - combined radium-226 and radium-228 MCL of 5 pCi/L - gross alpha particle activity (including radium-226 but excluding radon and uranium) MCL of 15 pCi/L.

**COMPLIANCE CATEGORY:
SAFE DRINKING WATER ACT (SDWA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>3-3. Installations with community water systems must meet specific requirements for man-made radionuclides contamination (NCAC Title 15A, Subchapter 18C Section .1521)</p> <p>DISINFECTION</p> <p>3-4. Installations that use chlorine to disinfect the water must meet specific requirements (NCAC, Title 15A, Subchapter 18C, Section .2002).</p>	<p>Verify that the following MCLs for manmade radionuclides are not exceeded:</p> <ul style="list-style-type: none"> - an average annual concentration of beta particle and photon radioactivity from manmade radionuclides in drinking water that produces an annual dose equivalent to the total body or any internal organ greater than 4 millirem (mrem)/yr - when two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ less than 4 mrem/yr. <p>Verify that if the annual MCL for manmade radioactivity is exceeded, the installation notifies the Department and the public.</p> <p>Verify that water systems using chlorine as a singular applied disinfectant maintain a residual disinfectant concentration of 0.2 mg/L free chlorine for water entering the distribution system.</p> <p>Verify that water systems using ammonia and chlorine as a disinfectant maintain a residual disinfectant concentration of 2.0 mg/L combined chlorine for water entering the distribution system.</p> <p>Verify that when chlorine is the singular applied disinfectant, the water system maintains a residual disinfectant concentration of 0.2 mg/L as free chlorine in at least 95 percent of the samples taken each month.</p> <p>Verify that when ammonia and chlorine are used as a disinfectant, the water systems maintains a residual disinfectant concentration of 2.0 mg/L as combined chlorine in at least 95 percent of the samples taken each month.</p>
<p>OPERATING PERMITS</p> <p>3-5. Installations with community water systems must have operating permits (NCAC, Title 15A, Subchapter 18C Section .2101).</p>	<p>Verify that community water systems have a valid operating permit and meet all permit conditions.</p>

**COMPLIANCE CATEGORY:
SAFE DRINKING WATER ACT (SDWA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>WATERSHED PROTECTION PROGRAM</p> <p>3-6. Installations with unfiltered public water supplies must provide watershed protection (NCAC, Title 15A, Subchapter 18C Sections .1101 through .1107).</p> <p>3-7. Installations with filtered water supplies must meet specific requirements for water quality protection (NCAC Title 15A, Subchapter 18C Sections .1201, .1204, .1207, .1208 and .1210).</p>	<p>Verify that no hogs, cattle, or other domestic animals are confined in the watershed area.</p> <p>Verify that no persons other than a duly authorized representative of the water system is allowed in the watershed area.</p> <p>(NOTE: The exceptions to this are local health department officials, game wardens, state foresters, or law enforcement officials.)</p> <p>Verify that no hunting, fishing, or hiking is allowed inside the watershed area.</p> <p>Verify that any dead animal carcasses found inside the watershed area are buried with a covering of at least 3 ft [0.91 m] of earth, burned, or removed from the watershed area.</p> <p>Verify that no reforestation, lumbering, timbering, or construction is permitted in the watershed area unless approved by the Department.</p> <p>Verify that the watershed area is inspected at least once every 3 mo to assure that the watershed is maintained in a manner which insures physical protection of the water supply.</p> <p>Verify that a copy of the watershed inspection report is submitted to the Public Water Supply Section within 10 days after completion of the inspection.</p> <p>Verify that the watershed boundaries are marked prohibiting trespassing by unauthorized personnel.</p> <p>Verify that no recreational activities are allowed on Class I or Class II reservoirs without resolution by the commission or approval by the Department.</p> <p>Verify that no fishing is allowed within 50 yd [45.72 m] of a community water supply intake.</p> <p>Verify that no fishing is allowed on Class I or Class II reservoirs without a resolution by the Commission for Public Health.</p> <p>Verify that domestic farm animals are not allowed closer than 50 ft [15.42 m] from the reservoir at normal full level.</p> <p>Verify that no treated or untreated domestic sewage, and or treated or domestic industrial by-products, are stored on the watershed or discharged into any public water supply reservoir or stream tributary.</p>

COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
3-7. (continued)	<p>Verify that any residence, place of business or public assembly located in the watershed is provided with a sanitary means of sewage disposal.</p> <p>Verify that any dead animal carcasses found inside the watershed area are buried with a covering of at least 3 ft [0.91 m] of earth, burned, or removed from the watershed area.</p> <p>Verify that any substance stored within the watershed that may adversely effect the quality of the water has been approved by the Division.</p>
OPERATION OF PUBLIC WATER SUPPLIES	
3-8. Installations with community water systems requiring disinfection must meet specific operating requirements (NCAC, Title 15A, Subchapter 18C Section .1301).	<p>Verify that the operator in charge of a community water system requiring disinfection can calculate the required chlorine dose and other chemical doses that are applied to the water.</p> <p>Verify that the operator in charge of a community water system requiring disinfection has a valid certificate issued by the North Carolina Water Treatment Facility Operators Board.</p> <p>Verify that the operator in charge of a community water system requiring disinfection sample the water for residual chlorine at least daily.</p>
3-9. Installations with community water systems that utilizes filtration must meet specific operating requirements (NCAC, Title 15A, Subchapter 18C Section .1302).	<p>Verify that the operator in charge of a community water system filtration plant has a valid certificate issued by the North Carolina Water Treatment Facility Operators Board.</p> <p>Verify that an operator is on duty at the treatment plant whenever the plant is in operation.</p> <p>Verify that adequate bacteriological and chemical tests and analysis of the water are done on a daily basis.</p>

**COMPLIANCE CATEGORY:
SAFE DRINKING WATER ACT (SDWA)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>3-10. Installations with community water systems that utilize groundwater must meet specific operating requirements (NCAC, Title 15A, Subchapter 18C Section .1303).</p> <p>FLUORIDATION</p> <p>3-11. Water systems that use fluoride must meet specific requirements (NCAC, Title 15A, Subchapter 18C Section .1402, .1405 and .1406).</p>	<p>Verify that the operator in charge of a community water system well can calculate the required chlorine dose and other chemical doses that are applied to the water.</p> <p>Verify that the operator in charge of a community water system using groundwater has a valid certificate issued by the North Carolina Water Treatment Facility Operators Board.</p> <p>Verify that the operator in charge of a community water systems requiring disinfection sample the water for residual chlorine at least daily.</p> <p>Verify that community water systems that apply fluoride have written approval from the Secretary of the Department.</p> <p>Verify that fluoride dry feeders are equipped with dust collectors consisting of bag filters operating under positive pressure discharging to the outside.</p> <p>Verify that each operator that handles fluoride has an individual toxic dust respirator.</p> <p>Verify that the treatment process results in a fluoride dose of 1.0 mg/L.</p> <p>Verify that adequate records of fluoride added are kept and submitted to the Department on or before the 15th of each month.</p>

INSTALLATION:	COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 4

**RESOURCE CONSERVATION AND RECOVERY ACT,
SUBTITLE C (RCRA-C)**

North Carolina Supplement

SECTION 4

RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE C (RCRA-C)

North Carolina Supplement

North Carolina has adopted by reference the following Federal standards for 15A NCAC 13A North Carolina Hazardous Waste Management Rules:

.0001 General (d) - 40 Code of Federal Regulations (CFR) 260.1 through 260.3 (Subpart A), General, have been incorporated by reference including subsequent amendments and editions.

.0001 General (e) - 40 CFR 260.11, References, has been incorporated by reference including subsequent amendments and editions.

.0002 Definitions (b) - 40 CFR 260.10 (Subpart B), Definitions, has been incorporated by reference, including subsequent amendments and editions except that the Definitions for Disposal, Landfill, Management or hazardous waste management, Person, Sludge, Storage, and Treatment are defined by North Carolina General Statutes (GS) 130A-290 and are not incorporated by reference.

.0003 Petitions (b) - 40 CFR 260.21 through 260.41 (Subpart C), Rulemaking Petitions, have been incorporated by reference including subsequent amendments and editions.

.0004 Public Information (a) - the provisions concerning requests for information in 40 CFR 2.100 to 2.120 (Subpart A) have been incorporated by reference including subsequent amendments and editions, except that 40 CFR 2.100 (a) is not incorporated by reference.

.0005 General Program Requirements, Part 124 - 40 CFR 124.1 through 124.21 (Subpart A), General Program Requirements, have been incorporated by reference including subsequent amendments and editions, except that 40 CFR 124.2(c) is not incorporated by reference.

.0006 Identification & Listing of Hazardous Wastes, Part 261:

- (a) - 40 CFR 261.1 through 261.8 (Subpart A), General, have been incorporated by reference including subsequent amendments and editions.
- (b) - 40 CFR 261.10 through 261.11 (Subpart B), Criteria for Identifying the Characteristics of Hazardous Waste for Listing Hazardous Waste, have been incorporated by reference including subsequent amendments and editions.
- (c) - 40 CFR 261.20 through 261.24 (Subpart C), Characteristics of Hazardous Waste, have been incorporated by reference including subsequent amendments and editions.
- (d) - 40 CFR 261.30 through 261.35 (Subpart D), Lists of Hazardous Wastes, have been incorporated by reference including subsequent amendments and editions.
- (e) - the Appendices to 40 CFR Part 261 have been incorporated by reference including subsequent amendments and editions.

.0007 Standards Applicable to Generators of Hazardous Waste, Part 262:

- (a) - 40 CFR 262.10 through 262.12 (Subpart A), General, have been incorporated by reference including subsequent amendments and editions.

- (b) - 40 CFR 262.20 through 262.23 (Subpart B), The Manifest, have been incorporated by reference including subsequent amendments and editions.
- (c) - 40 CFR 262.30 through 262.34 (Subpart C), Pre-Transport Requirements, have been incorporated by reference including subsequent amendments and editions.
- (d) - 40 CFR 262.40 through 262.44 (Subpart D), Recordkeeping and Reporting, have been incorporated by reference including subsequent amendments and editions. In addition, a generator shall keep records of inspections and results of inspections required by Section 262.34 for at least 3 yr from the date of the inspection.
- (e) - 40 CFR 262.50 through 262.58 (Subpart E), Exports of Hazardous Waste, have been incorporated by reference including subsequent amendments and editions.
- (f) - 40 CFR 262.60 (Subpart F), Imports of Hazardous Waste, has been incorporated by reference including subsequent amendments and editions.
- (g) - 40 CFR 262.70 (Subpart G), Farmers, has been incorporated by reference including subsequent amendments and editions.
- (h) - the Appendix to 40 CFR Part 262 has been incorporated by reference including subsequent amendments and editions; however, Items D, F, H, and I on the form in the Appendix to 40 CFR Part 262 are required to be completed on the North Carolina Hazardous Waste Manifest form.

.0008 Standards Applicable to Transporters of Hazardous Waste, Part 263:

- (a) - 40 CFR 263.10 through 263.12 (Subpart A), General, have been incorporated by reference including subsequent amendments and editions.
- (b) - 40 CFR 263.20 through 263.22 (Subpart B), Compliance With the Manifest System and Recordkeeping, have been incorporated by reference including subsequent amendments and editions.
- (c) - 40 CFR 263.30 through 263.31 (Subpart C), Hazardous Waste Discharges, have been incorporated by reference including subsequent amendments and editions.

.0009 Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, Part 264:

- (b) - 40 CFR 264.1 through 264.4 (Subpart A), General, have been incorporated by reference including subsequent amendments and editions.
- (c) - 40 CFR 264.10 through 264.19 (Subpart B), General Facility Standards, have been incorporated by reference including subsequent amendments and editions.
- (d) - 40 CFR 264.30 through 264.37 (Subpart C), Preparedness and Prevention, have been incorporated by reference including subsequent amendments and editions.
- (e) - 40 CFR 264.50 through 264.56 (Subpart D), Contingency Plan and Emergency Procedures, have been incorporated by reference including subsequent amendments and editions.
- (f) - 40 CFR 264.70 through 264.77 (Subpart E), Manifest System, Recordkeeping, and Reporting, have been incorporated by reference including subsequent amendments and editions.
- (g) - 40 CFR 264.90 through 264.101 (Subpart F), Releases from Solid Waste Management Units, have been incorporated by reference including subsequent amendments and editions. For the purpose of this incorporation by reference, 26 January 1983 shall be substituted for 26 July 1982 contained in 40 CFR 264.90(a)(2).
- (h) - 40 CFR 264.110 through 264.120 (Subpart G), Closure and Postclosure, have been incorporated by reference including subsequent amendments and editions.
- (i) - 40 CFR 264.140 through 264.151 (Subpart H), Financial Requirements, have been incorporated by reference including subsequent amendments and editions, except that 40 CFR 264.143(a)(3), (a)(4), (a)(5), (a)(6), 40 CFR 264.145(a)(3), (a)(4), (a)(5), and 40 CFR 264.151(a)(1), Section 15 are not incorporated by reference.

- (j) - 40 CFR 264.170 through 264.178 (Subpart I), Use and Management of Containers, have been incorporated by reference including subsequent amendments and editions.
- (k) - 40 CFR 264.190 through 264.199 (Subpart J), Tank Systems, have been incorporated by reference including subsequent amendments and editions.
- (l)(1) - 40 CFR 264.220 through 264.231 (Subpart K), Surface Impoundments, have been incorporated by reference including subsequent amendments and editions.
- (m) - 40 CFR 264.250 through 264.259 (Subpart L), Waste Piles, have been incorporated by reference including subsequent amendments and editions.
- (n) - 40 CFR 264.270 through 264.283 (Subpart M), Land Treatment, have been incorporated by reference including subsequent amendments and editions.
- (o) - 40 CFR 264.300 through 264.317 (Subpart N), Landfills, have been incorporated by reference including subsequent amendments and editions.
- (p) - a long-term storage facility must meet groundwater protection, closure and postclosure, and financial requirements for disposal facilities as specified in Paragraphs (g), (h), and (i) of this Rule.
- (q) - 40 CFR 264.340 through 264.351 (Subpart O), Incinerators, have been incorporated by reference including subsequent amendments and editions.
- (r) - There are additional location standards for hazardous waste management facilities.
- (s) - 40 CFR 264.570 through 264.575 (Subpart W), Drip Pads, have been incorporated by reference including subsequent amendments and editions.
- (t) - 40 CFR 264.600 through 264.603 (Subpart X), Miscellaneous Units, have been incorporated by reference including subsequent amendments and editions.
- (u) - 40 CFR 264.1030 through 264.1049 (Subpart AA), Air Emission Standards for Process Vents, have been incorporated by reference including subsequent amendments and editions.
- (v) - 40 CFR 264.1050 through 264.1079 (Subpart BB), Air Emission Standards for Equipment Leaks, have been incorporated by reference including subsequent amendments and editions.
- (w) - 40 CFR 264.1100 through 264.1102 (Subpart DD), Containment Buildings, have been incorporated by reference including subsequent amendments and editions.
- (x) - Appendices to 40 CFR Part 264 have been incorporated by reference including subsequent amendments and editions.

.0010 Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, Part 265:

- (a) - 40 CFR 265.1 through 265.4 (Subpart A), General, have been incorporated by reference including subsequent amendments and editions.
- (b) - 40 CFR 265.10 through 265.19 (Subpart B), General Facility Standards, have been incorporated by reference including subsequent amendments and editions.
- (c) - 40 CFR 265.30 through 265.37 (Subpart C), Preparedness and Prevention, have been incorporated by reference including subsequent amendments and editions.
- (d) - 40 CFR 265.50 through 265.56 (Subpart D), Contingency Plan and Emergency Procedures, have been incorporated by reference including subsequent amendments and editions.
- (e) - 40 CFR 265.70 through 265.77 (Subpart E), Manifest System, Recordkeeping, and Reporting, have been incorporated by reference including subsequent amendments and editions.
- (f) - 40 CFR 265.90 through 265.94 (Subpart F), Groundwater Monitoring, have been incorporated by reference including subsequent amendments and editions.
- (g) - 40 CFR 265.110 through 265.120 (Subpart G), Closure and Postclosure, have been incorporated by reference including subsequent amendments and editions.
- (h) - 40 CFR 265.140 through 265.151 (Subpart H), Financial Requirements, have been incorporated by reference including subsequent amendments and editions, except that 40 CFR

265.143(a)(3), (a)(4), (a)(5), (a)(6), and 40 CFR 265.145(a)(3), (a)(4), (a)(5) are not incorporated by reference.

- (i) - 40 CFR 265.170 through 265.177 (Subpart I), Use and Management of Containers, have been incorporated by reference including subsequent amendments and editions. Additionally, the owner or operator shall keep records and results of required inspections for at least 3 yr from the date of the inspection.
- (j) - 40 CFR 265.190 through 265.201 (Subpart J), Tank Systems, have been incorporated by reference including subsequent amendments and editions.
- (k) - 40 CFR 265.220 through 265.230 (Subpart K), Surface Impoundments, have been incorporated by reference including subsequent amendments and editions.
- (l) - 40 CFR 265.250 through 265.260 (Subpart L), Waste Piles, have been incorporated by reference including subsequent amendments and editions.
- (m) - 40 CFR 265.270 through 265.282 (Subpart M), Land Treatment, have been incorporated by reference including subsequent amendments and editions.
- (n) - 40 CFR 265.300 through 265.316 (Subpart N), Landfills, have been incorporated by reference including subsequent amendments and editions.
- (o) - 40 CFR 265.340 through 265.352 (Subpart O), Incinerators, have been incorporated by reference including subsequent amendments and editions.
- (p) - 40 CFR 265.370 through 265.383 (Subpart P), Thermal Treatment, have been incorporated by reference including subsequent amendments and editions.
- (q) - 40 CFR 265.400 through 265.406 (Subpart Q), Chemical, Physical, and Biological Treatment, have been incorporated by reference including subsequent amendments and editions.
- (r) - 40 CFR 265.440 through 265.445 (Subpart W), Drip Pads, have been incorporated by reference including subsequent amendments and editions.
- (s) - 40 CFR 265.1030 through 265.1049 (Subpart AA), Air Emission Standards for Process Vents, have been incorporated by reference including subsequent amendments and editions.
- (t) - 40 CFR 265.1050 through 265.1079 (Subpart BB), Air Emission Standards for Equipment Leaks, have been incorporated by reference including subsequent amendments and editions.
- (u) - 40 CFR 265.1100 through 265.1102 (Subpart DD), Containment Buildings, have been incorporated by reference including subsequent amendments and editions.
- (v) - Appendices to 40 CFR Part 265 have been incorporated by reference including subsequent amendments and editions.

.0011 Standards for the Management of Specific Hazardous Waste and Specific Types of Hazardous Waste Management Facilities, Part 266:

- (a) - 40 CFR 266.20 through 266.23 (Subpart C), Recyclable Materials Used in a Manner Constituting Disposal, have been incorporated by reference including subsequent amendments and editions.
- (b) - 40 CFR 266.30 through 266.35 (Subpart D), Hazardous Waste Burned for Energy Recovery, have been incorporated by reference including subsequent amendments and editions.
- (c) - 40 CFR 266.40 through 266.44 (Subpart E), Used Oil Burned for Energy Recovery, have been incorporated by reference including subsequent amendments and editions.
- (d) - 40 CFR 266.70 (Subpart F), Recyclable Materials Utilized for Precious Metal Recovery, has been incorporated by reference including subsequent amendments and editions.
- (e) - 40 CFR 266.80 (Subpart G), Spent Lead-Acid Batteries Being Reclaimed, has been incorporated by reference including subsequent amendments and editions.
- (f) - 40 CFR 266.100 through 266.112 (Subpart H), Hazardous Waste Burned in Boilers, have been incorporated by reference including subsequent amendments and editions.
- (g) - Appendices to 40 CFR Part 266 have been incorporated by reference including subsequent amendments and editions.

.0012 Land Disposal Restrictions, Part 268:

- (a) - 40 CFR 268.1 through 268.14 (Subpart A), General, have been incorporated by reference including subsequent amendments and editions.
- (b) - 40 CFR 268.30 through 268.36 (Subpart C), Prohibitions on Land Disposal, have been incorporated by reference including subsequent amendments and editions.
- (c) - 40 CFR 268.40 through 268.46 (Subpart D), Treatment Standards, have been incorporated by reference including subsequent amendments and editions.
- (d) - 40 CFR 268.50 (Subpart E), Prohibitions on Storage, has been incorporated by reference including subsequent amendments and editions.
- (e) - Appendices to 40 CFR Part 268 have been incorporated by reference including subsequent amendments and editions.

.0013 The Hazardous Waste Permit Program, Part 270:

- (a) - 40 CFR 270.1 through 270.6 (Subpart A), General Information, have been incorporated by reference including subsequent amendments and editions. For the purposes of this incorporation by reference, 26 January 1983 shall be substituted for 26 July 1982 contained in 40 CFR 270.1(c).
- (b) - 40 CFR 270.10 through 270.29 (Subpart B), Permit Application, have been incorporated by reference including subsequent amendments and editions.
- (f) - 40 CFR 270.30 through 270.33 (Subpart C), Permit Conditions, have been incorporated by reference including subsequent amendments and editions.
- (g) - 40 CFR 270.40 through 270.43 (Subpart D), Changes to Permit, have been incorporated by reference including subsequent amendments and editions.
- (h) - 40 CFR 270.50 through 270.51 (Subpart E), Expiration and Continuation of Permits, have been incorporated by reference including subsequent amendments and editions.
- (i) - 40 CFR 270.60 through 270.66 (Subpart F), Special Forms of Permits, have been incorporated by reference including subsequent amendments and editions.
- (j) - 40 CFR 270.70 through 270.73 (Subpart G), Interim Status, have been incorporated by reference including subsequent amendments and editions. For the purpose of this incorporation by reference, 1 January 1986 shall be substituted for 8 November 1985 contained in 40 CFR 270.73(c).
- (m)(2) - The following provisions of 40 CFR Part 264, as incorporated by reference, shall apply to owners and operators of off-site recycling facilities:
 - Subpart B - General Facility Standards
 - Subpart C - Preparedness and Prevention
 - Subpart D - Contingency Plan and Emergency Procedures
 - Subpart E - Manifest System, Recordkeeping, and Reporting
 - Subpart G - Closure and Post-Closure
 - Subpart H - Financial Requirements
 - Subpart I - Use and Management of Containers
 - Subpart J - Tank Systems
 - 264.101 - Corrective Action for Solid Waste Management Units
 - Subpart X - Miscellaneous Units
 - Subpart DD - Containment Buildings

.0014 Requirements for Authorization of State Hazardous Waste Programs, Part 271: 40 CFR 271.17 Sharing of Information, has been incorporated by reference including subsequent amendments and editions.

.0018 Standards for the Management of Used Oil, 40 CFR 279:

- (a) 279.1 Definitions, except that the definition of used oil was not adopted. North Carolina uses the definition in North Carolina GS 130A-290(b).
- (b) 279.10 through 279.12 Applicability
- (c) 279.20 through 279.24 Standards for Used Oil Generators
- (d) 279.30 through 279.32 Standards for Used Oil Collection Center
- (e) 279.40 through 279.47 Standards for Used Oil Transporters
- (f) 279.50 through 279.59 Standards for Used Oil Processors and Refiners
- (g) 279.60 through 279.67 Standards for Used Oil Burners
- (h) 279.70 through 279.75 Standards for Used Oil Fuel Marketers
- (i) 279.80 through 279.81 Standards for Use as Dust Suppressant and Disposal of Used Oil
- (j) (1) Reporting and fee requirements. Persons which transport more than 500 gal/week, collection facilities which receive more than 6000 gal of used oil, facilities which recycle more than 10,000 gal, and public used collection centers must submit an annual report listing the type and quantity of used oil transported, collected, and recycled.
(2) Electric utilities which generate and recycle onsite and onsite burners of their own used oil are not required to comply with (j)(1).
(3) An annual fee of \$25 charged to persons identified in (j)(1).

Definitions

These definitions were obtained from the following sources: North Carolina GS 130A-290(a) and (b), and North Carolina Hazardous Waste Management Rule .0002.

- *Department* - the North Carolina Department of Environment, Health, and Natural Resources (DEHNR).
- *Disposal* - the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.
- *Division* - the Solid Waste Management Division (SWMD).
- *Landfill* - a disposal facility or part of a disposal facility where waste is placed in or on land and which is not a land treatment facility, a surface impoundment, an injection well, a hazardous waste long-term storage facility, or a surface storage facility.
- *Long-term Storage* - the containment of hazardous waste for an indefinite period of time in a facility designed to be closed with the hazardous waste in place.
- *Management or Hazardous Waste Management* - the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous wastes.
- *Offsite Recycling Facility* - any facility that receives shipments of hazardous waste from offsite to be recycled or processed for recycling through and process conducted at the facility, but does not include any facility owned or operated by a generator of hazardous waste solely to recycle their own waste.
- *Person* - an individual, corporation, company, association, partnership, unit of local government, state agency, Federal agency, or other legal entity.

- *Section* - the Hazardous Waste Section in the Division of Solid Waste Management, Department of Environment, Health, and Natural Resources (DEHNR).
- *Sludge* - any solid, semisolid, or liquid waste generated from:
 1. a municipal, commercial, institutional, or industrial wastewater treatment plant, or
 2. water supply treatment plant, or
 3. air pollution control facility, or
 4. any other waste having similar characteristics and effects.
- *Storage* - the containment of solid waste, either on a temporary basis or for a period of years, in a manner which does not constitute disposal.
- *Treatment* - any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste or so as to render such waste nonhazardous, safer for transport, amenable for recovery, amenable for storage, or reduced in volume. Treatment includes any activity or processing designed to change the physical form or chemical composition of hazardous waste so as to render it nonhazardous.
- *Used Oil* - any oil which has been refined from crude oil or synthetic oil and, as a result of use, storage, or handling, has become unsuitable for its original purpose due to the presence of impurities or loss of original properties, but which may be suitable for further use and is economically recyclable.

INSTALLATION:	COMPLIANCE CATEGORY: RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE C (RCRA-C) North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 5

**RESOURCE CONSERVATION AND RECOVERY ACT,
SUBTITLE D (RCRA-D)**

North Carolina Supplement

SECTION 5

RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)

North Carolina Supplement

The North Carolina Department of Environment, Health, and Natural Resources, Division of Solid Waste Management has adopted the Federal used oil regulations by reference. The Department has incorporated the following regulations:

- 40 Code of Federal Regulations (CFR) 279.1 Subpart A - Definitions, except the definition for Used Oil.
- 40 CFR 279.10 through 279.12, Subpart B - Applicability.
- 40 CFR 279.20 through 279.24, Subpart C - Standards for Used Oil Generators.
- 40 CFR 279.30 through 279.32, Subpart D - Standards for Used Oil Collection Centers and Aggregation Points.
- 40 CFR 279.40 through 279.47, Subpart E - Standards for Used Oil Transporter and Transfer Facilities.
- 40 CFR 279.50 through 279.59, Subpart F - Standards for Used Oil Processors and Re-Refiners.
- 40 CFR 279.60 through 279.67, Subpart G - Standards for Used Oil Burners Who Burn Off-Specification Used Oil for Energy Recovery.
- 40 CFR 279.70 through 279.75, Subpart H - Standards for Used Oil Fuel Marketers.
- 40 CFR 279.80 through 279.81, Subpart I - Standards for Use as a Dust Suppressant and Disposal of Used Oil, except 279.82, which addresses used oil as a dust suppressant, is specifically not incorporated by reference.

Definitions

These definitions were obtained from the North Carolina Department of Environment, Health, and Natural Resources, Solid Waste Management Rules, North Carolina Administrative Code (NCAC) 15A, NCAC 13B, the Amendments to the North Carolina Hazardous Waste Management Rules, effective 1 October 1993, and North Carolina General Statutes 130A-290.

- *100 Year Flood* - a flood that has a 1 percent or less chance of recurring in any year, or a flood of a magnitude equaled or exceeded once in 100 yr on the average over a significantly long period.
- *Agricultural Waste* - waste materials produced from the raising of plants and animals, including animal manures, bedding, plant stalks, hulls, and vegetable matter.
- *Backyard Composting* - the onsite composting of yard waste from residential property by the owner or tenant for noncommercial use.
- *Base Liner System* - the liner system installed on the municipal solid waste landfill unit's foundation to control the flow of leachate.

- **Blood and Body Fluids** - liquid blood, serum, plasma, other blood products, emulsified human tissue, spinal fluids, and pleural and peritoneal fluids. Dialysates are not blood or body fluids under this definition.
- **Blood Products** - all bulk blood and blood products.
- **Cap System** - a liner system installed over the municipal solid waste landfill unit to minimize infiltration of precipitation and contain the wastes.
- **Cell** - compacted solid waste completely enveloped by a compacted cover material.
- **Closure** - the cessation of operation of a solid waste management facility, and the act of securing the facility so that it will pose no significant threat to human health or the environment.
- **Compost** - decomposed, humus-like organic matter, free from pathogens, offensive odors, toxins, or materials harmful at the point of end use. Compost is suitable for use as a soil conditioner with varying nutrient values.
- **Compost Facility** - a solid waste facility which utilizes a controlled biological process of degrading non-hazardous solid waste. A facility may include materials processing and hauling equipment, structures to control drainage, structures to collect and treat leachate, and storage areas for the incoming waste, the final products, and residual materials.
- **Composting** - the controlled decomposition of organic waste by naturally occurring bacteria, yielding a stable, humus-like, pathogen-free final product resulting in volume reduction of between 30 to 75 percent.
- **Composting Pad** - a surface, whether soil or manufactured, where the process of composting takes place, and where raw and finished materials are stored.
- **Curing** - the final stage of composting, after the majority of the readily metabolized material has been decomposed, in which the compost material stabilizes and dries.
- **Demolition Landfill** - a sanitary landfill that is limited to receiving stumps, limbs, leaves, concrete, brick, wood, uncontaminated earth, or other solid wastes as approved by the Division.
- **Department** - the Department of Environment, Health, and Natural Resources.
- **Disposal** - the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land so that such solid waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any water, including groundwaters.
- **Division** - the Director of the Division of Solid Waste Management or the Director's authorized representative.
- **Erosion Control Measure, Structure, or Device** - physical devices constructed and management practices utilized, to control sedimentation and soil erosion such as silt fences, sediment basins, check dams, channels, swales, energy dissipation pads, seeding, mulching, and other similar items.
- **Explosive Gas** - methane.

- *Federal Act* - the *Resource Conservation and Recovery Act* of 1976, Public Law 94-580, as amended.
- *Floodplain* - the lowland and relatively flat areas adjoining inland and coastal waters, including flood prone areas of offshore islands, which are inundated by the 100 yr flood.
- *Foreign Matter* - metals, glass, plastics, rubber, bones, and leather, but does not include sand, grit, rocks, or other similar materials.
- *Garbage* - all putrescible wastes, including animal offal and carcasses, and recognizable industrial byproducts, but excluding sewage and human waste.
- *Hazardous Waste* - a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may either:
 1. cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness
 2. pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.
- *Hazardous Waste Facility* - a facility for the storage, collection, processing, treatment, recycling, recovery, or disposal of hazardous waste.
- *Hazardous Waste Landfill Facility* - any facility or any portion of a facility for the disposal of hazardous waste on or in land in accordance with rules promulgated under this article.
- *Health Service Facility* - a hospital, psychiatric facility, rehabilitation facility, long term care facility, kidney disease treatment center, including freestanding hemodialysis units, intermediate care facility for the mentally retarded, home health agency, chemical dependency treatment facility, and ambulatory surgical facility.
- *Household Waste* - any solid waste derived from households including single or multiple residences, hotels, motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day use recreational areas.
- *Incineration* - the process of burning solid, semi-solid, or gaseous combustible wastes to an inoffensive gas and a residue containing little or no combustible material.
- *Industrial Process Waste* - any solid, semi-solid, or liquid waste generated by a manufacturing or processing plant which is a result of the manufacturing or processing process. This definition does not include packaging materials associated with such activities.
- *Inert Debris* - solid waste which consists solely of material that is virtually inert and that is likely to retain its physical and chemical structure under expected conditions of disposal.
- *Land Clearing Waste* - solid waste which is generated solely from land clearing activities such as stumps, trees, limbs, brush, grass, and other naturally occurring vegetative material.
- *Land Clearing and Inert Debris (LCID) Landfill* - a facility for the land disposal of land clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood, and yard trash.

- **Landfill Facility** - all contiguous land and structures, other appurtenances, and improvements on the land within the legal description of the site included in or proposed for the Solid Waste Permit. Existing facilities are those facilities which were permitted by the Division prior to 9 October 1993. Facilities permitted on or after 9 October 1993 are new facilities.
- **Landfill Unit** - a discrete area of land or an excavation that receives solid waste, and is not a land application unit, surface impoundment, injection well, or waste pile, as defined under 40 CFR 257. Such a landfill may be publicly or privately owned.
- **Leachate** - any liquid, including any suspended components in liquid, that has percolated through or drained from solid waste.
- **Liner System** - an engineered environmental control system which can incorporate filters, drainage layers, compacted soil liners, geomembrane liners, piping systems, and connected structures.
- **Lower Explosive Limit** - the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at 25 °C [77 °F] and atmospheric pressure.
- **Medical Waste** - any solid waste which is generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals, but does not include any hazardous waste, radioactive waste, household waste, or those substances excluded from the definition of *solid waste* in this section.
- **Medical Waste Generating Facility** - any facility where medical waste first becomes a waste, including but not limited to, any medical or dental facility, funeral home, laboratory, veterinary hospital, and blood bank.
- **Microbiological Wastes** - includes cultures and stocks of etiologic agents. The term includes cultures of specimens from medical, pathological, pharmaceutical, research, commercial, and industrial laboratories.
- **Mining Refuse** - all waste soil, rock, mineral, scrap, tailings, slime, and other material directly connected with the mining, cleaning, and preparation of substances mined and includes all waste materials deposited on or in the permit area from other sources.
- **Mulch** - a protective covering of various substances, especially organic, to which not plant food has been added and for which no plant food is claimed. Mulch is generally placed around plants to prevent erosion, compaction, evaporation of moisture, freezing of roots, and weed growth.
- **Municipal Solid Waste** - see Household Waste.
- **Onsite** - the same or geographically contiguous property which may be divided by public or private right of way.
- **Open Burning** - any fire wherein the products of combustion are emitted directly into the outdoor atmosphere and are not directed thereto through a stack or chimney, incinerator, or other similar devices.
- **Open Dump** - a solid waste disposal site that does not have a permit, or does not meet the requirements of this protocol.

- **Pathogens** - organisms that are capable of producing infection or diseases, often found in waste materials.
- **Pathological Wastes** - includes human tissues, organs, body parts, secretions and excretions, blood and body fluids that are removed during surgery and autopsies; and the carcasses and body parts of all animals that were exposed to pathogens in research, were used in the production of biologicals or in the in vivo testing of pharmaceuticals, or that died of known or suspected infectious disease.
- **Person** - an individual, corporation, company, association, partnership, unit of local government, state agency, Federal agency, or other legal entity.
- **Place of Business** - any store, warehouse, manufacturing establishment, place of amusement or recreation, service station, food handling establishment, or any other place where people work or are served.
- **Place of Public Assembly** - any fairground, auditorium, stadium, church, campground, theater, school, or any other place where people gather or congregate.
- **Processing** - chopping, chipping, shredding, slicing, cutting, stamping, dyeing, pyrolyzing, or other physiochemical processing of scrap tires either for disposal or production of usable materials.
- **Project Engineer** - the official representative of the permittee who is licensed to practice engineering in the State of North Carolina, who is responsible for observing, documenting, and certifying that activities related to the quality assurance of the construction of the solid waste management facility confirms to the Division approved plan, the permit to construct and the Rules specified in this Section. All certification must bear the seal and signature of the professional engineer and the date of certification.
- **Putrescible** - solid waste capable of being decomposed by microorganisms with sufficient rapidity as to cause nuisances from odors and gases, such as kitchen wastes, offal, and carcasses.
- **Radioactive Waste Material** - any waste containing any solid, liquid, or gas which emits ionizing radiation spontaneously.
- **Recovered Materials** - those materials which have known recycling potential, can be feasibly recycled, and have been diverted or removed from the solid waste stream for sale, use, or reuse by separation, collection, or processing.
- **Recycling** - the process by which recovered resources are transformed into new products in such a manner that the original products lose their identity.
- **Refuse** - all nonputrescible waste.
- **Regulated Medical Waste** - blood and body fluids in individual containers in volumes greater than 20 mL [0.68 fl oz], microbiological waste, and pathological waste that have not been treated pursuant to the operational requirements for regulated medical wastes.
- **Residence** - any home, hotel, motel, summer camp, labor work camp, mobile home, dwelling unit in a multiple family structure, or any other place where people reside.

- ***Residues from Agricultural Products and Processing*** - solids, semisolids, or liquid residues from food and beverage processing and handling, silviculture, agricultural, and aquaculture operations that are nontoxic, nonhazardous, and contain no domestic wastewater.
- ***Resources Recovery*** - the process of obtaining material or energy resources from discarded solid waste which no longer has any useful life in its present form and preparing such solid waste for recycling.
- ***Rock*** - the consolidated or partially consolidated mineral matter or aggregate, including bedrock or weathered rock, not exhibiting the properties of soil.
- ***Runoff*** - the portion of precipitation that drains from an area as surface flow.
- ***Sanitary Landfill*** - a facility for disposal of solid waste on land in a sanitary manner in accordance with the rules concerning sanitary landfills.
- ***Scrap Tire Disposal Site*** - any place at which scrap tires are disposed of by sanitary landfill, incineration, or other method as may be approved by the Department.
- ***Scrap Tire Monofill*** - a sanitary landfill, or portion thereof, permitted exclusively for scrap tire disposal.
- ***Sediment*** - solid particulate matter both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin.
- ***Septage*** - solid waste that is a fluid mixture of untreated and partially treated sewage solids, liquids, and sludge of human or domestic origin which is removed from a septic tank system.
- ***Sharps*** - include needles, syringes with attached needles, capillary tubes, slides and cover slips, and scalpel blades.
- ***Siltation*** - sediment resulting from accelerated erosion which is settleable or removable by properly designed, constructed, and maintained control measures and which has been transported from its point of origin within the site land disturbing activity and which has been deposited, or is in suspension in water.
- ***Silviculture Waste*** - waste materials produced from the care and cultivation of forest trees, including bark and woodchips.
- ***Sludge*** - any solid, semisolid, or liquid waste generated from a municipal, commercial, institutional, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect.
- ***Soil*** - the unconsolidated mineral and organic material of the land surface. It consists of sand, silt, and clay minerals and variable amounts of organic materials.
- ***Soil Group I*** - comprised of the sandy texture soils, including sand and loamy sand textural classes.
- ***Soil Scientist*** - an individual who is a Certified Professional Soil Scientist or Soil Specialist by American Registry of Certified Professionals in Agronomy, Crops, and Soils or an individual that demonstrates equivalent experience or education.

- **Soil Textural Classes**- soil classification based upon size distribution of mineral particles in the fine-earth fraction less than 2 mm [0.079 in.] in diameter. The fine-earth fraction includes sand (2.0 mm [0.079 in.] - 0.05 mm [0.00197 in.] in size), silt (0.05 mm [0.00197 in.] - 0.002 mm [0.0000787 in.]), and clay (less than 0.002 mm in size) particles. The specific textural classes are defined as follows:
 1. sand - soil material that contains 85 percent or more of sand; the percentage of silt plus 1.5 times the percentage of clay must not exceed 15
 2. loamy sand - soil material that contains at the upper limit 85 to 90 percent sand, and the percentage of silt plus 1.5 times the percentage of clay is not less than 15; at the lower limit it contains not less than 70 to 85 percent sand, and the percentage of silt plus twice the percentage of clay does not exceed 30
 3. sandy loam - soil material that contains either 20 percent clay or less, and the percentage of silt plus twice the percentage of clay exceeds 30, and contains 52 percent or more sand; or less than 7 percent clay, less than 50 percent silt, and between 43 and 52 percent sand
 4. loam - soil material that contains 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand
 5. silt loam - soil material that contains 50 percent or more silt and 12 to 27 percent clay; or contains 50 to 80 percent silt and less than 12 percent clay
 6. silt - soil material that contains 80 percent or more silt and less than 12 percent clay
 7. sandy clay loam - soil material that contains 20 to 35 percent clay, less than 28 percent silt, and 45 percent or more sand
 8. clay loam - soil material that contains 27 to 40 percent clay and 20 to 45 percent sand
 9. silty clay loam - soil material that contains 27 to 40 percent clay and less than 20 percent sand
 10. sandy clay - soil material that contains 35 percent or more clay and 45 percent or more sand
 11. silty clay - soil material that contains 40 percent or more clay and 40 percent or more silt
 12. clay - soil material that contains 40 percent or more clay, less 45 percent sand, and less 40 percent silt.
- **Solid Waste** - any hazardous or nonhazardous garbage, refuse, or sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility, domestic sewage and sludges generated by treatment thereof in sanitary sewage collection, treatment and disposal systems, and other material that is either discarded or is being accumulated, stored, or treated prior to being discarded, or has served its original intended use and is generally discarded including solid, liquid, semisolid, or contained gaseous material resulting from industrial, institutional, commercial, and agricultural operations, and from community activities. The term does not include:
 1. fowl and animal fecal waste
 2. solid or dissolved material in:
 - a. domestic sewage and sludges generated by the treatment thereof in sanitary sewage collection, treatment and disposal systems which are designed to discharge effluents to the surface waters
 - b. irrigation return flows
 - c. wastewater discharges and the sludges incidental thereto and generated by the treatment thereof which are point sources subject to permits granted under Section 402 of the Federal *Water Pollution Control Act*, as amended, and permits granted by the Environmental Management Commission, except that any sludges that meet the criteria for hazardous waste under the Federal *Resource Conservation and Recovery Act (RCRA)*, as amended, are also a solid waste for the purposes of this Article
 - d. oils and other liquid hydrocarbons controlled under Article 21A of Chapter 143 of the North Carolina General Statutes, except that any such oils or other liquid hydrocarbons that meet the criteria for hazardous waste under the Federal *RCRA*, as amended, are also a solid waste for the purposes of this Article

- e. any radioactive material as defined by the *North Carolina Radiation Protection Act*
- f. mining refuse covered by the *North Carolina Mining Act* and regulated by the North Carolina Mining Commission, except that any specific mining waste that meets the criteria for hazardous waste under the Federal RCRA, as amended, are also a solid waste for the purposes of this Article.

- *Solid Waste Collector* - any person who collects or transports solid waste by whatever means, including but not limited to, highway, rail, and navigable waterway.
- *Solid Waste Disposal Site* - any place at which solid wastes are disposed of by incineration, sanitary landfill, demolition landfill, or any other acceptable method.
- *Solid Waste Generator* - any person who produces solid waste.
- *Solid Waste Management* - purposeful, systematic control of the generation, storage, collection, transport, separation, treatment, processing, recycling, recovery, and disposal of solid waste.
- *Solid Waste Management Facility* - land, personnel, and equipment used in the management of solid waste.
- *Special Wastes* - solid wastes that can require special handling and management, including white goods, whole tires, used oil, lead-acid batteries, and medical wastes.
- *Spoiled Food* - any food which has been removed from sale by the U.S. Department of Agriculture, North Carolina Department of Agriculture, Food and Drug Administration, or any other regulatory agency having jurisdiction in determining that food is unfit for consumption.
- *Static Aerated Pile Composting Method* - a method of composting municipal solid waste to reduce pathogens. It includes the following procedures:
 - 1. maintain aerobic conditions during the compost process
 - 2. maintain the temperature of the compost at 55° C (131° F) or greater for at least 3 days.
- *Steam Sterilization* - treatment by steam at high temperatures for sufficient time to render infectious waste non-infectious.
- *Storage* - the containment of solid waste, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal.
- *Transfer Facility* - a permanent structure with mechanical equipment used for the collection or compaction of solid waste prior to the transportation of solid waste for final disposal.
- *Treatment* - any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any solid waste so as to neutralize such waste or so as to render such waste nonhazardous, safer for transport, amenable for recovery, amenable for storage, or reduced in volume. Such term includes any activity or processing designed to change the physical form or chemical composition of solid waste so as to render it nonhazardous.
- *Treatment and Processing Facility* - a facility used in the treatment and processing of putrescible solid waste for final disposal or for utilization by reclaiming or recycling.

- *Treatment and Processing Waste* - waste that is a residual solid from a wastewater treatment or pretreatment facility.
- *Unit of Local Government* - a county, city, consolidated city-county, sanitary district, or other local political subdivision, authority or agency of local government.
- *Used Oil* - any oil which has been refined from crude oil or synthetic oil and, as a result of use, storage, or handling, has become unsuitable for its original purpose, due to the presence of impurities or loss of original properties, but which may be suitable for further use and is economically recyclable.
- *Vector* - a carrier, usually an arthropod, that is capable of transmitting a pathogen from one organism to another.
- *Water Supply Watershed* - an area from which water drains to a point or impoundment, and the water is then used as a source for a public water supply.
- *Water Table* - the upper limit of the portion of the ground wholly saturated with water.
- *Windrow* - an elongated compost pile (typically 8 ft [2.43 m] wide by 10 ft [3.05 m] high).
- *Windrow Composting Method* - a method of composting municipal solid waste that reduces the level of pathogens. It includes the following procedures:
 1. maintain aerobic conditions during the compost process
 2. maintain a temperature of 55° C (131° F) or greater in the windrow for at least 15 days
 3. turn the windrow at least five times during the high temperature period.
- *White Goods* - includes inoperative and discarded refrigerators, ranges, water heaters, freezers, and other similar domestic and commercial large appliances.
- *Within-Vessel Composting Method* - a method of composting municipal solid waste that reduces the level of pathogens. It requires that the temperature of the compost be maintained at 55° C (131° F) or greater for at least 3 days.
- *Working Face* - that portion of the land disposal site where solid wastes are discharged, spread, and compacted prior to the placement of cover material.
- *Yard Trash* - solid waste resulting from landscaping and yard maintenance such as brush, grass, tree limbs, and similar vegetative material.
- *Yard Waste* - solid waste consisting solely of vegetative matter resulting from landscaping maintenance including stumps, limbs, leaves, grass, and untreated wood.

**RESOURCE CONSERVATION AND RECOVERY ACT,
SUBTITLE D (RCRA-D)**

GUIDANCE FOR NORTH CAROLINA CHECKLIST USERS

Applicability:	Refer to Checklist Items:
All Installations	5-1
Solid Waste Storage	5-2
Solid Waste Collection and Transportation	5-3
Solid Waste Permits	5-4 through 5-8
Solid Waste Treatment, Processing and Transfer Facilities	5-9
Solid Waste Disposal Sites	5-10 through 5-12
Sanitary Landfills	5-13 through 5-19
Incinerators	5-20
Land Clearing and Inert Disposal (LCID) Landfills	5-21 through 5-27
Septage Disposal	5-28 through 5-33
Yard Waste Facilities	5-34 through 5-41
Scrap Tire Management	5-42 through 5-57
Used Oil Management	5-58 through 5-60
Medical Waste Management	5-61 and 5-62
Medical Waste Generators	5-63 through 5-65
Medical Waste Transporters	5-66
Medical Waste Storage	5-67
Medical Waste Treatment Facilities - Operational Requirements	5-68 through 5-72
Compost Facilities for Municipal Solid Waste (MSW)	5-73 through 5-84
Municipal Solid Waste Landfill Facilities (MSWLFs)	5-85 through 5-89
MSWLF Units - Design and Construction	5-90 through 5-100
MSWLF Units - Operational Requirements	5-101 through 5-108
MSWLF Units - Closure Requirements	5-109
MSWLF Units - Groundwater Monitoring Requirements	5-110
MSWLF Units - Leachate Storage Requirements	5-111 through 5-115

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
ALL INSTALLTIONS	
<p>5-1. Solid waste must be managed in a manner consistent with the requirements of this protocol (T15A NCAC: 13B.103(a)(e) through (h)).</p>	<p>Verify that all solid waste is stored, collected, transported, separated, processed, recycled, recovered, and disposed of in a manner consistent with the requirements of this protocol.</p> <p>Verify that solid waste is disposed of at a solid waste disposal site in accordance with the <i>North Carolina Solid Waste Management Act</i> and the <i>Federal Solid Waste Act</i>.</p> <p>Verify that the following wastes are not disposed of at a solid waste disposal site:</p> <ul style="list-style-type: none"> - hazardous waste - lead acid batteries - liquid waste, which includes: <ul style="list-style-type: none"> - used oil - regulated medical waste - white goods - any other waste, as determined by the Department, that may pose a threat to the environment or the public health. <p>Verify that solid waste is not disposed of in or on waters in a manner that results in the solid waste entering waters or being deposited upon lands of the state.</p> <p>Verify that scales are installed, and all solid waste is weighed when received at the solid waste management facility.</p> <p>Verify that all active sanitary landfills, except land clearing and inert debris landfills, will be equipped with liners, leachate collection systems, and final cover systems after 1 January 1998.</p>
SOLID WASTE STORAGE	
<p>5-2. Installations must be responsible for the sanitary storage of all solid waste accumulated on the property (T15A NCAC: 13B.104).</p>	<p>Verify that garbage is stored in durable, rust resistant, nonabsorbent, water tight, rodent proof, and easily cleanable containers with a close fitting fly-tight cover, when applicable, or other types of acceptable containers.</p> <p>Verify that containers storing both garbage and refuse meet the requirements for garbage containers.</p> <p>Verify that hazardous wastes are stored as prescribed in the appropriate hazardous waste protocol.</p> <p>Verify that all containers for the storage of solid waste and all solid waste are maintained and stored in a manner that prevents the creation of a nuisance, unsanitary conditions, or a potential health hazard.</p>

**COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-2. (continued)</p>	<p>Verify that broken containers are replaced.</p> <p>Verify that refuse too large or otherwise not suitable for storage in containers is stored in a nuisance-free manner.</p>
<p>SOLID WASTE COLLECTION AND TRANSPORTATION</p>	
<p>5-3. Solid waste collectors must be responsible for the satisfactory collection and transportation of all solid waste to a permitted disposal site or facility (T15A NCAC: 13B.105).</p>	<p>Verify that solid waste is transported only to facilities that are permitted to receive the waste.</p> <p>Verify that vehicles or containers used for the collection and transportation of garbage or refuse containing garbage are covered, leakproof, durable, and of easily cleanable construction.</p> <p>Verify that the vehicles and containers used for transportation are cleaned as often as necessary to prevent a nuisance or insect breeding and are maintained in good repair.</p> <p>Verify that vehicles or containers used for the collection and transportation of any solid waste are loaded and moved in a manner that prevents the contents from falling, leaking, or spilling and are covered, when necessary, to keep the contents dry and prevent the blowing of material.</p> <p>Verify that spillage is picked up immediately by the solid waste collector and returned to the vehicle or container, and the area is properly cleaned.</p>
<p>SOLID WASTE PERMITS</p>	
<p>5-4. Installations must obtain a permit from the Division to manage a solid waste (T15A NCAC: 13B.201).</p>	<p>Verify that the installation has a permit from the Division to establish a solid waste management facility or otherwise treat, store, or dispose of solid waste.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-5. Any substantial change in the population area to be served or the type, quantity, or source of waste at the facility requires a new permit and operation plan (T15A NCAC: 13B.504).</p>	<p>Determine if the facility has experienced any substantial change in the population area to be served or the type, quantity, or source of waste at the facility.</p> <p>Verify that a new permit and operation plan are obtained if any substantial changes have occurred at the facility.</p>
<p>5-6. Management of radioactive waste material must be authorized by a radioactive material license (T15A NCAC: 13B.103(b)).</p>	<p>Verify that no radioactive material is collected, transported, stored, treated processed, disposed of or reclaimed, except as specifically authorized by a radioactive material license.</p>
<p>5-7. A permit is not required for beneficial fill activity that meets specific requirements (T15A NCAC: 13B.562).</p>	<p>Determine if the installation is undertaking a beneficial fill activity.</p> <p>Verify that the beneficial fill activity meets all of the following conditions:</p> <ul style="list-style-type: none"> - the fill material consists only of inert debris strictly limited to concrete, brick, concrete block, uncontaminated soil, rock, and gravel - fill activity involves no excavation - purpose of the fill activity is to improve land use potential or other approved beneficial reuses - fill activity is not exempt from, and must meet, all other Federal, state, and local laws, ordinances, rules, and regulations, including but not limited to the following: <ul style="list-style-type: none"> - zoning restrictions - flood plain restrictions - wetland restrictions - mining regulations - sedimentation and erosion control regulations - fill activity must not contravene groundwater standards.

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-8. Installations with MSWLF units must meet specific permit requirements (T15A NCAC: 13B.1603 and 1604 (b)).</p>	<p>Verify that installations with new MSWLF units submit a site study and application for permit in the following instances:</p> <ul style="list-style-type: none"> - the installation proposes to establish a new facility not previously permitted by the Division - the installation proposes to expand the landfill facility in order to expand the MSWLF unit boundary - the installation with an existing facility is scheduled to close an existing MSWLF unit not constructed with a base liner system and proposes to establish a new MSWLF unit - a transfer of ownership is proposed - a substantial change occurs to the waste stream defined in the effective permit.
<p>SOLID WASTE TREATMENT, PROCESSING, AND TRANSFER FACILITIES</p>	
<p>5-9. Treatment, processing and transfer facilities must be maintained and operated in accordance with specific practices (T15A NCAC: 13B.302 and 402).</p>	<p>Determine specific approved operational plans and practices from the facility permit.</p> <p>Verify that the facility meets the following operational requirements:</p> <ul style="list-style-type: none"> - accepts only the wastes it is permitted to receive - contains water that comes in contact with solid waste onsite or properly treats the water prior to discharge from the site - provides fire control equipment - applies effective vector control measures to control flies, rodents, and other insects or vermin - provides equipment in storage and charging areas, and elsewhere as needed, to maintain the facility in a sanitary condition - confines material subject wind dispersal within the area. <p>(NOTE: A National Pollutant Discharge Elimination System (NPDES) permit may be required prior to discharge to surface waters.)</p> <p>Verify that all wind blown material resulting from the operation is collected and returned to the area at the conclusion of each operation day.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>SOLID WASTE DISPOSAL SITES</p> <p>5-10. Solid waste must be disposed of in an approved manner (T15A NCAC: 13B.501).</p> <p>5-11. Installations operating an open dump for the disposal of solid waste must immediately close the site after 4 January 1993 (T15A NCAC: 13B.502).</p> <p>5-12. Installations closing a disposal site must follow specific procedures after closure (T15A NCAC: 13B.510).</p>	<p>Verify that solid waste is disposed of by the following approved methods or any combination thereof:</p> <ul style="list-style-type: none"> - sanitary landfill - land clearing and inert debris landfill - incineration - disposal by other sanitary methods which are developed and demonstrated to be capable of fulfilling the basic Departmental requirements and have been approved by the Division. <p>Determine if the installation has an open dump for the disposal of solid waste.</p> <p>Verify that the dump is closed in accordance with the following requirements:</p> <ul style="list-style-type: none"> - implement effective vector control, including baiting, for at least 2 weeks after closing the site to prevent vector migration to adjacent properties - implement erosion control measures by grading and seeding - prevent unauthorized entry to the site by means of gates, chains, berms, fences, and other security measures approved by the Division - post signs indicating closure for a period designated by the Division not to exceed 1 yr. <p>Verify that, when sites are deemed suitable for closure by the Division, the following occurs:</p> <ul style="list-style-type: none"> - compact and cover existing solid waste in place with 1 ft [0.30 cm] or more of suitable compacted earth - recordation of the change in the waste disposal site with the Register of Deeds in the county where the land lies. <p>Verify that the facility does not engage in open burning of solid waste.</p> <p>Verify that, when sites are deemed unsuitable for closure by the Division, the solid waste is removed and placed in an approved disposal site or facility.</p> <p>Verify that the installation notifies the Division of the closure in writing so that a site inspection may be made.</p> <p>Verify that the installation provides test holes, as specified by the Division, to meet the requirements for final cover.</p> <p>Verify that the installation conducts all necessary maintenance and water quality monitoring, as specified in the closure letter.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-12. (continued)</p> <p>SANITARY LANDFILLS</p> <p>5-13. Sanitary landfill facilities must be operated and maintained in accordance with specific practices and requirements (T15A NCAC: 13B.505 (1)).</p> <p>5-14. Sanitary landfills must meet specific operational requirements with regards to the cover, spreading, and compacting (T15A NCAC: 13B.505(2) and (3)).</p> <p>5-15. Sanitary landfills must meet specific operational requirements for erosion and drainage control, vegetation, and water protection (T15A NCAC: 13B.505(4) through (7)).</p>	<p>(NOTE: The permit is terminated when a solid waste disposal site has been closed in accordance with the requirements of the Division. Any future disposal at the site requires a new permit.)</p> <p>Verify that the construction plans are approved and followed.</p> <p>Verify that the specified monitoring and reporting requirements are met.</p> <p>Verify that solid waste is restricted to the smallest area feasible.</p> <p>Verify that solid waste is compacted as densely as practical into cells.</p> <p>Verify that solid waste is covered after each operation day with a compacted layer of at least 6 in. [15.24 cm] of suitable cover, or as specified by the Division.</p> <p>Verify that the facility covers areas which will not have additional wastes placed on them for 12 mo or more but where final termination of disposal operations has not occurred with a minimum of 1 ft [0.30 m] of intermediate cover.</p> <p>Verify that the area is covered with at least 2 ft [0.61 m] of suitable compacted earth after final termination of disposal operations at the site or a major part thereof.</p> <p>Verify that erosion control measures are used to prevent silt from leaving the site.</p> <p>Verify that adequate erosion control measures are practiced to prevent excessive onsite erosion.</p> <p>Verify that surface water is diverted from the operational area.</p> <p>Verify that surface water is not impounded over or in waste.</p> <p>Verify that the completed areas are adequately sloped to allow surface water runoff in a controlled manner.</p> <p>Verify that the area is stabilized with native grass within 6 mo after final termination of disposal operations at the site or a major portion of the site or upon revocation of a permit.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
5-15. (continued)	<p>Verify that the facility utilizes temporary seeding, as necessary, to stabilize the site.</p> <p>Verify that a separation distance of 4 ft [1.22 m] is maintained between waste and water table, unless otherwise specified in the facility permit.</p> <p>Verify that the facility does not dispose of solid waste in water.</p> <p>Verify that leachate is contained onsite or properly treated prior to discharge.</p> <p>(NOTE: A NPDES permit may be required prior to the discharge of leachate to surface waters.)</p>
<p>5-16. Sanitary landfills must meet operational requirements for access, security and safety (T15A NCAC: 13B.505(8) through (10)).</p>	<p>Verify that the facility is adequately secured by means of gates, chains, berms, fences, and other security measures approved by the Division, to prevent unauthorized entry.</p> <p>Verify that an attendant is on duty at the site at all times while the facility is open for public use.</p> <p>Verify that the access road to the facility is all-weather construction and is maintained in good condition.</p> <p>Verify that dust control measures are implemented, where necessary.</p> <p>Verify that signs are posted at the site entrance to provide information on dumping procedures, the hours during which the site is open for public use, the permit number, and other pertinent information.</p> <p>Verify that signs are posted stating that no hazardous or liquid waste is received without written permission from the Division.</p> <p>Verify that traffic signs or markers are provided, as necessary, to promote an orderly traffic pattern to and from the discharge area and to maintain efficient operating conditions.</p> <p>Verify that solid waste is not open burned.</p> <p>Verify that equipment is provided to control accidental fires, or arrangements are made with the local fire protection agency to immediately provide fire-fighting services when needed.</p> <p>Verify that fires at the sanitary landfill are reported to the Division within 24 h and a written notification is submitted within 15 days.</p> <p>Verify that solid waste is not removed from the landfill unless the owner/operator approves, and the removal is not performed on the working face.</p> <p>Verify that barrels and drums are empty and sufficiently perforated to ensure that no liquid or hazardous waste is still contained prior to their disposal.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-17. Sanitary landfills must meet specific operational requirements for waste acceptance and disposal (T15A NCAC: 13B.505(11)(a) through (c)).</p> <p>5-18. Sanitary landfills must meet specific requirements for the disposal of asbestos waste (T15A NCAC: 13B.505 (11)(d)).</p> <p>5-19. Sanitary landfills must meet specific miscellaneous operating requirements (T15A NCAC: 13B.505(12)).</p>	<p>Verify that the facility accepts only the waste it is permitted to receive.</p> <p>Verify that the facility notifies the Division within 24-h of attempted disposal of any waste the landfill is not permitted to receive, including wastes from outside the area the landfill is permitted to serve.</p> <p>Verify that the landfill does not accept or dispose of hazardous or liquid waste.</p> <p>Verify that spoiled foods, animal carcasses, abattoir waste, hatchery waste, and other animal waste delivered to the disposal site is covered immediately.</p> <p>Verify that wastewater treatment sludges are used only as a soil conditioner and incorporated into the final 2 ft [0.61 m] of cover.</p> <p>(NOTE: Sludges must be examined for acceptance using the Waste Determination procedures in this Section.)</p> <p>Verify that asbestos waste is packaged in accordance with Federal asbestos regulations and is disposed of separate and apart from other solid wastes at the bottom of the working face or in an area not contiguous with other disposal areas, in either case, in virgin soil.</p> <p>Verify that separate areas are clearly marked so that asbestos is not exposed by future land-disturbing activities.</p> <p>Verify that asbestos waste is covered immediately with soil in a manner that does not cause airborne conditions.</p> <p>Verify that effective vector control measures are applied to control flies, rodents, and other insects or vermin.</p> <p>Verify that methods, such as fencing and diking, are provided within the area to confine solid waste objects subject to be blown by the wind.</p> <p>Verify that all windblown material resulting from the operation is collected and returned to the area at the end of each operating day.</p>
<p>INCINERATORS</p> <p>5-20. Incinerators must be maintained and operated according to specific procedures (T15A NCAC: 13B.509).</p>	<p>Verify that an air quality permit issued by the Division of Environmental Management, Department of Environment, Health, and Natural Resources is obtained prior to operation.</p> <p>Verify that the facility is situated, equipped, operated, and maintained in a manner that minimizes interference with other activities in the area.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-20. (continued)</p>	<p>Verify that all solid waste to be disposed of at the site is confined to the dumping area and that adequate storage facilities are provided.</p> <p>Verify that effective vector control measures are applied to control flies, rodents, and other insects or vermin.</p> <p>Verify that equipment is provided in the storage or charging area, and elsewhere as needed, to maintain the plant in a sanitary condition.</p> <p>Verify that all residue from the incinerator plant is promptly disposed of at an approved sanitary landfill site.</p> <p>Verify that the facility is designed and operated in a manner that prevents the creation of a nuisance or potential health hazard.</p> <p>Verify that the facility accepts only the solid wastes it is permitted to receive.</p> <p>Verify that water that comes into contact with solid waste is contained onsite or properly treated prior to discharge.</p> <p>(NOTE: A NPDES permit may be required prior to discharge to surface waters.)</p>
<p>LAND CLEARING AND INERT DEBRIS (LCID) LANDFILLS</p> <p>5-21. Management of LCID must be in accordance with the state hierarchy for managing solid waste (T15A NCAC: 13B.563).</p>	<p>(NOTE: Disposal in a landfill is considered to be the least desirable method of managing LCID.)</p> <p>Determine if the installation manages LCID.</p> <p>Verify that the installation manages LCID in accordance with the following state hierarchy for managing solid waste, in descending order of preference:</p> <ul style="list-style-type: none"> - waste volume reduction at the source - recycling and reuse - composting - incineration with energy production - disposal in landfills.

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-22. Specific LCID landfills do not require individual permits from the Division (T15A NCAC: 13B.563(1) and (2)).</p>	<p>Verify that the facility meets the following conditions to operate without an individual permit from the Division:</p> <ul style="list-style-type: none"> - facility is operated for the disposal of the following: <ul style="list-style-type: none"> - land clearing waste - inert debris - untreated wood - yard trash - total disposal area is under 2 acres [8093.71 m²] in size - facility and practices meet all LCID siting and operational requirements - fill activity meets the requirements of all other Federal, state or local laws, ordinances, rules, regulations, or orders, including but not limited to, the following: <ul style="list-style-type: none"> - zoning restrictions - flood plain restrictions - wetland restrictions - sedimentation and erosion control requirements. <p>Verify that, when the land on which the LCID landfill is located is sold, leased, conveyed, or transferred in any manner, the deed or other instrument of transfer contains in the description section, in no smaller type than that used in the body of the deed or instrument, a statement that the property has been used as a LCID landfill and a reference by book and page to the record of the notification.</p>
<p>5-23. The construction and operation of certain LCID landfills require individual permits (T15A NCAC: 13B.563(3)).</p>	<p>Verify that facilities meeting the following conditions obtain individual permits from the Division for LCID landfills:</p> <ul style="list-style-type: none"> - facility is operated for the disposal of the following <ul style="list-style-type: none"> - land clearing waste - inert debris - untreated wood - yard trash - total disposal area is greater than 2 acres [8093.71 m²] in size.

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-24. Landfills permitted as demolition landfills must meet specific requirements (T15A NCAC: 13B.563(6)).</p>	<p>Verify that landfills currently permitted as demolition landfills meet the following requirements:</p> <ul style="list-style-type: none"> - only accept the following wastes for disposal, unless otherwise specified in the existing permit <ul style="list-style-type: none"> - land clearing waste - inert debris - untreated wood - yard trash - meet the operational requirements for LCID landfills - meet the siting requirements for LCID landfills as of 1 January 1998, or cease operations and close the facility in accordance with the applicable regulations.
<p>5-25. LCID landfills must meet specific operational requirements (T15A NCAC: 13B.566(1) through (5)).</p>	<p>Verify that operational plans are approved and followed for the facility.</p> <p>Verify that the facility accepts only those solid wastes it is permitted to receive.</p> <p>Verify that solid waste is restricted to the smallest area feasible and compacted as densely as practical into cells.</p> <p>Verify that the disposal area is covered with a minimum of 1 ft [0.30 m] of suitable soil cover sloped to allow surface water runoff in a controlled manner 120 calendar days after completion of any phase of disposal operations, or upon revocation of a permit.</p> <p>Verify that adequate soil cover is applied monthly, or when the active area reaches 1 acre [4046.86 m²] in size, whichever occurs first.</p> <p>Verify that adequate erosion control measures, structures, or devices are utilized to prevent silt from leaving the site and to prevent excessive onsite erosion.</p> <p>Verify that provisions for a ground cover sufficient to restrain erosion are accomplished within 30 working days or 120 calendar days after completion of any phase of landfill development.</p>
<p>5-26. LCID landfills must meet specific security, access, and sign requirements (T15A NCAC: 13B.566(8),(9), and (16)).</p>	<p>Verify that the facility is adequately secured by means of gates, curbs, berms, or fences to prevent unauthorized access, except when an operator is on duty.</p> <p>Verify that an attendant is on duty at all times the landfill is open for public use to assure compliance with all operational requirements and to prevent acceptance of unauthorized wastes.</p> <p>Verify that access roads are of all-weather construction and properly maintained.</p> <p>Verify that a sign is posted at the facility entrance showing the contact name, number, and the permit number in case of an emergency.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-26. (continued)</p> <p>5-27. LCID landfills must meet additional operating requirements (T15A NCAC: 13B.566(10) through (15)).</p> <p>SEPTAGE DISPOSAL</p> <p>5-28. Septage management facilities must obtain an operational permit from the Department (T15A NCAC: 13B.803(a)).</p> <p>5-29. Septage disposal sites must meet specific management requirements (T15A NCAC: 13B.808).</p>	<p>(NOTE: The permit number requirement is not applicable to installations that do not possess an individual LCID permit.)</p> <p>Verify that the LCID landfill meets the following operational requirements:</p> <ul style="list-style-type: none"> - surface water is not diverted from the working face - surface water is not impounded over the waste - solid waste is not disposed of in water - solid waste is not open burned - the concentration of explosive gases generated at the facility does not exceed: <ul style="list-style-type: none"> - 25 percent of the lower explosive limit for the gases in the facility structures - the lower explosive limit for the gases at the property boundary. <p>Verify that leachate is properly managed onsite through the use of current best management practices.</p> <p>Verify that the facility obtains a permit from the Department prior to commencing or continuing operation of a septage management facility.</p> <p>Verify that untreated septage waste is managed in one of the following manners within 24 h of removal from a ground absorption sewage disposal system.</p> <ul style="list-style-type: none"> - disposed of at a wastewater treatment plant, disked, plowed, or otherwise incorporated in the soil - treated by a means to reduce pathogens. <p>(NOTE: Untreated septage waste that is placed in a septage detention system that is part of a permitted disposal site or method does not have to meet the above management requirement.)</p> <p>Verify that each septage disposal site is posted with NO TRESSPASSING signs.</p> <p>Verify that access roads or paths crossing or leading to the disposal area are posted NO TRESSPASSING and a legible sign of at least 2 ft [0.61 m] by 2 ft [0.61 m] stating SEPTAGE DISPOSAL AREA is maintained at each entrance to the disposal area.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-29. (continued)</p>	<p>Verify that septage is applied so that there is no standing surface collection of liquid 24 h after application.</p> <p>Verify that hazardous waste is not disposed of at the facility.</p> <p>Verify that industrial or solid waste is not deposited on the site without prior approval from the Department.</p> <p>Verify that the pH of the soil-septage mixture is maintained at 6.5 or greater at all times.</p> <p>Verify that the site is managed in a manner that minimizes soil erosion and surface water runoff.</p> <p>Verify that all water control structures are designed, installed, and maintained to control the runoff resulting from a 10-yr storm.</p> <p>Verify that a written management plan is prepared and submitted to the Department.</p> <p>Verify that records and reports are maintained to show compliance with permit requirements and to assist in proper septage disposal.</p> <p>Verify that a log recording the date of pumping, measured in gallons of septage pumped, and the location of the septage site is maintained for each pumping event.</p>
<p>5-30. Septage disposal sites must provide facilities or have an alternate plan for the detention or disposal of septage during periods when the approved disposal method is not available (T15A NCAC: 13B.809).</p>	<p>(NOTE: The use of a septage detention system at a permitted septage disposal site is only acceptable as a temporary storage method during periods of adverse weather conditions.)</p> <p>Verify that septage detention systems are not a component of the septage disposal site and are located at the appropriate minimum distances from the following:</p> <ul style="list-style-type: none"> - 100 ft [30.48 m] from private residence, place of business, or place of public assembly - 100 ft [30.48 m] from potable water supply well or potable water supply spring - 100 ft [30.48 m] from surface waters - 25 ft [7.62 m] from property lines. <p>Verify that an enclosed storage system is used.</p> <p>(NOTE: Steel, concrete, or fiberglass tanks are required for the enclosed storage system.)</p> <p>Verify that septage is transferred to and from the storage system in a safe, sanitary manner that prevents leaks or spills of septage.</p> <p>Verify that each septage detention system prevents the flow of septage out of the system and into the seasonally high water table, onto the ground surface, or into any of the surface waters of the state.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
5-30. (continued)	<p>Verify that the septage management firm utilizing detention systems controls odors from the system.</p> <p>Verify that septage is removed from the detention system when an approved means of disposal is available.</p>
5-31. Septage disposal sites must meet specific requirements for soil testing (T15A NCAC: 13B.810).	<p>Verify that the soil in the disposal area is tested annually during the operation of the site</p> <p>Verify that the sample for testing is taken in the presence of an authorized representative of the Department.</p> <p>Verify that the tests are performed in laboratories approved by the Department to test soils.</p> <p>Verify that the annual application of cadmium does not exceed 0.5 kg/hectare/yr [0.46 lb/acre/yr], as measured from the soil test.</p> <p>Verify that the results of the soil tests are submitted to the Department.</p>
5-32. Septage disposal facilities must meet specific restrictions after septage has been applied to the site (T15A NCAC: 13B.811).	<p>Verify that the pH of the septage-soil mixture is maintained at 6.5 or greater during application and immediately following closure.</p> <p>Verify that food crops for human consumption or silage crops for dairy animals are not grown until 18 mo after the last application of septage.</p> <p>Verify that animals grown for meat are not grazed on the site until 60 days after the last application of septage.</p> <p>Verify that public access to the site is controlled until 18 mo after the last application of septage.</p> <p>Verify that dairy animals are not grazed on the site for 3 yr following the last application of septage.</p> <p>Verify that the facility notifies the Department prior to final closure of the septage disposal site so that a site inspection may be made.</p> <p>Verify that the lifetime addition of cadmium to the soil does not exceed the values in Appendix 5-1.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

**REGULATORY
REQUIREMENTS:**

REVIEWER CHECKS:

5-33. Septage disposal facilities must meet specific transportation requirements (T15A NCAC: 13B.812).

Verify that all septage is transported in a safe, sanitary manner that prevents leaks or spills.

Verify that an approved septage management firm, possessing a valid septage management permit, meets the following transportation requirements:

- displays decals or lettering on each side of every pumper vehicle operated by the firm showing the following information about the firm:
 - name
 - address
 - phone number
 - septage permit number
- all decals or lettering on the pumper vehicle are no less than 3 in. [7.62 cm] in height and plainly visible
- permanent identification (i.e., no removable signs).

**YARD WASTE
FACILITIES**

5-34. Installations that accept, store or compost more than 6000 yd³ [4590 m³] yard waste per quarter must have a permit from the Division, but specific yard waste facilities are exempt from the permit requirements (T15A NCAC: 13B.901 and 902(2)).

Determine if the installation conducts one or more of the following activities that do not require a permit:

- backyard composting
- farming operations where the compost is produced from materials grown on the owner's land and is reused on the owner's land or in other farming operations and not offered to the public
- facilities processing and storing less than 6000 yd³ [4587.33 m³] of material quarterly that meet the following conditions:
 - notification of the Solid Waste Section on an annual basis
 - agreement to operate according to Division operational requirements for yard waste facilities
 - agreement to operate according to all other state or local laws, ordinances, rules, regulations or orders
 - facility is not located over closed-out disposal area
- facilities storing or producing mulch from untreated wood waste which meet the following conditions:
 - facility is not located over closed-out disposal site
 - no more than 1 acre [4046.86 m²] of land is utilized for storage of mulch
 - access to fire equipment or fire fighting services is provided
 - safety measures are taken to prevent fires.

Determine if the facility accepts, stores, or composts more than 6000 yd³ [4587.33 m³] of yard waste per quarter.

Verify that the facility obtains the appropriate permit from the Division.

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-35. Disposal of yard trash in a sanitary landfill is prohibited, unless specific conditions are met (T15A NCAC: 13B.902(1)).</p> <p>5-36. Yard waste facilities must meet specific operational requirements (T15A NCAC: 13B.904 (1)).</p>	<p>Verify that yard trash is only disposed of in a sanitary landfill if the yard trash has been separated and the facility provides and maintains a separate yard trash composting area.</p> <p>(NOTE: Yard waste may be composted with agricultural waste and silvicultural waste. The Division does not regulate the composting of agricultural waste and silviculture waste, unless mixed with yard waste.)</p> <p>Verify that the facility follows the requirements and conditions of the construction plans and the permit.</p> <p>Verify that a copy of the permit, plans, and operational reports is available at all times.</p> <p>Verify that the facility is operated in a manner that controls vectors.</p> <p>Verify that the amount of compost or mulch stored at the facility does not exceed the designed storage capacity.</p> <p>Verify that the facility accepts only the following wastes:</p> <ul style="list-style-type: none"> - yard waste - agricultural waste - silviculture waste - untreated wood waste. <p>Verify that solid waste, other than the wastes the facility is permitted to receive, left at the facility is separated and stored in a manner that prevents vector problems and is removed within 7 days.</p> <p>Verify that particle size or larger trash items, such as limbs, trees, and stumps, are reduced to promote composting.</p> <p>Verify that the yard waste is removed from containers, unless the containers, bags, or another material have been approved by the Section.</p> <p>Verify that the compost is managed in the following manner:</p> <ul style="list-style-type: none"> - aerated to maintain elevated temperatures which will produce a pathogen free compost product - sufficient windrow construction and turning frequency to maintain aerobic conditions to produce a compost product in the desired time frame - receives final aeration upon the completion of the composting cycle to ensure stability before distribution - not located on Soil Group I - sandy soil, unless otherwise approved by the Department - the compost process maintained at 55 °C (131 °F) for 48 to 96 h, dependent upon the waste stream.

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
5-36. (continued)	<p>Verify that odors are controlled and minimized.</p> <p>Verify that static piles are turned at least once during a 12 mo interval.</p> <p>Verify that nitrogen bearing waste, such as grass clippings is incorporated into piles within 48 h of onsite arrival.</p>
5-37. Yard waste facilities must meet drainage control requirements (T15A NCAC: 13B.904 (2)).	<p>Verify that surface water is diverted from the operational area.</p> <p>Verify that the windrows are constructed parallel to the grade.</p> <p>Verify that the site is graded to prevent ponding in active compost areas.</p>
5-38. Yard waste facilities must meet water protection requirements (T15A NCAC: 13B.904 (3)).	<p>Verify that leachate is properly managed onsite through the best management practices.</p> <p>(NOTE: A nondischarge or NPDES permit may be required for disposal of any collected leachate.)</p>
5-39. Yard waste facilities must meet access, security, sign, and safety requirements (T15A NCAC: 13B.904(4) through (6)).	<p>Verify that the site is secured by means of gates, chains, berms, fences, or other security measures approved by the Division, to prevent unauthorized entry.</p> <p>Verify that the access road to the site is all-weather construction and maintained in good condition.</p> <p>Verify that signs provide information on the contact person and phone number in case of emergency, and the hours during which the site is open for use.</p> <p>Verify that traffic signs or markers are provided, as necessary, to promote an orderly traffic pattern to and from the discharge area and to maintain efficient operating conditions.</p> <p>Verify that signs are posted stating that only yard waste can be received at the site.</p> <p>Verify that solid waste is not open burned.</p> <p>Verify that equipment is provided to control accidental fires or arrangements are made with the local fire protection agency to immediately provide fire fighting services, as needed.</p> <p>Verify that space is provided between piles to allow access for vehicles, including fire equipment.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-40. Yard waste facilities must meet monitoring and reporting requirements (T15A NCAC: 13B.904(7)).</p>	<p>Verify that the facility conducts all monitoring required by the Department to insure protection of the environment.</p> <p>Verify that the facility submits an annual report to the Division which includes the following information:</p> <ul style="list-style-type: none"> - sources, type, quantity (by weight or volume) of waste received at the facility - the turning frequency, if applicable, and the timing and amount of water addition, if applicable - sampling of temperature duration and changes during composting, if applicable - the quantity, by weight or volume, of compost or mulch produced - the quantity, by weight or volume, of compost or mulch removed from the facility - a description of the end product and distribution or disposal.
<p>5-41. Yard waste facilities must post classification and distribution requirements for specific types of compost material (T15A NCAC: 13B.905).</p> <p>SCRAP TIRE MANAGEMENT</p> <p>5-42. Installations must not discard, deposit, or dispose of scrap tires, except at a site or facility permitted to receive scrap tires (T15A NCAC: 13B.1103).</p>	<p>Determine if the compost is made from yard waste, yard waste and agricultural waste, or yard waste and silviculture waste.</p> <p>Verify that the specified waste combinations are free from offensive odor, contain no pathogenic organisms, and contain no sharp particles which would cause injury to persons handling the compost.</p> <p>Verify that the facility provides directions for the application of these specified types of compost.</p> <p>Verify that the facility discards, deposits, or disposes of scrap tires only at a site or facility permitted to receive scrap tires, or a legitimate business exempt from the permit requirements.</p> <p>(NOTE: The following businesses are not required to have a permit:</p> <ul style="list-style-type: none"> - a tire retreading business where fewer than 1000 scrap tires are kept on the business premises - a business that, in the ordinary course of business, removes tires from motor vehicles if fewer than 1000 of these tires are kept on the business premises - a retail tire selling business which is serving as a scrap tire collection center if fewer than 1000 scrap tires are kept on the business premises.)

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-43. Facilities must obtain a permit from the Division to establish, operate, maintain, or allow a scrap tire collection site or scrap tire disposal site to be maintained upon the land (T15A NCAC: 13B.1105(a)).</p> <p>5-44. Facilities must meet specific conditions for the operation of a scrap tire facility (T15A NCAC: 13B.1104).</p>	<p>Verify that the scrap tire collection site or scrap tire disposal site has a valid permit from the Division.</p> <p>(NOTE: A permit is issued to the permit applicant for a particular site and is non-transferable.)</p> <p>(NOTE: A permitted sanitary landfill, other than a demolition landfill, is deemed permitted as a scrap tire disposal site.)</p> <p>Verify that the facility does not landfill whole scrap tires.</p> <p>Verify that the facility uses approved methods of scrap tire disposal.</p> <p>Verify that the tire collector notifies the Division of the location, size, period of operation, operation of the site, and the number of scrap tires accumulated at the site.</p> <p>Verify that the facility submits a scrap tire certification form from the following people:</p> <ul style="list-style-type: none"> - from the tire retailer or other person disposing of the scrap tires certifying that: <ul style="list-style-type: none"> - the tires were collected in the normal course of business for disposal - the county the tires were collected in - the number of tires to be disposed of - from the tire hauler certifying that the load contained the same tires that were received from the tire retailer or other persons disposing of the scrap tires. <p>Verify that the certification forms are retained for a minimum of 3 yr after the date of delivery of the scrap tires.</p>
<p>5-45. Scrap tires stored indoors must meet specific storage requirements (T15A NCAC: 13B.1107(1)).</p>	<p>Verify that scrap tires stored indoors meet the storage conditions described in The Standard for Storage of Rubber Tires, National Fire Protection Association 231D-1986 edition.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-46. All scrap tire collection, processing, or disposal sites that store or process tires outdoors must meet specific technical and operating standards (T15A NCAC: 13B.1107(2)(a) through (c)).</p> <p>5-47. Scrap tire collection sites must meet specific sign and fire protection requirements (T15A NCAC: 13B.1107(2)(d) through (h)).</p> <p>5-48. Scrap tire collection sites must meet emergency preparedness requirements (T15A NCAC: 13B.1107(2)(i)).</p>	<p>Verify that whole scrap tires are placed in an outdoor scrap tire pile(s) having dimensions no greater than 200 ft [60.96 m] in length, 50 ft [15.24 m] in width, and 15 ft [4.57 m] in height.</p> <p>Verify that a 50 ft [15.24 m] wide fire lane is placed around the perimeter of each scrap tire pile.</p> <p>Verify that access to the fire lane for emergency vehicles is unobstructed and passable at all times.</p> <p>Verify that the facility controls mosquitoes and rodents so as to protect the public health and welfare.</p> <p>Verify that scrap tires capable of holding water are covered upon receipt with a water shedding material or disposed of, processed, or removed from the site within 10 days of receipt.</p> <p>(NOTE: Sliced scrap tires stacked concave-side down are not required to be covered.)</p> <p>Verify that a sign is posted at the entrance of the site stating the operating hours.</p> <p>Verify that an attendant is present when the site is open for the receipt of tires.</p> <p>Verify that no operations involving the use of open flames, blow torches, or highly flammable substances are conducted within 50 ft [15.24 m] of a scrap tire pile.</p> <p>Verify that a fire safety survey is conducted annually by local fire protection authorities or other persons as approved by the Division.</p> <p>Verify that the scrap tire storage area(s) within the scrap tire collection site are kept free of grass, underbrush, and other potentially flammable vegetation at all times.</p> <p>Verify that the scrap tire collection site has an emergency preparedness manual onsite.</p> <p>Verify that the manual is updated at least once a year, upon changes in operations at the site, or as required by the Department.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-48. (continued)</p>	<p>Verify that the emergency preparedness manual contains the following information:</p> <ul style="list-style-type: none"> - a list of names and numbers of persons to be contacted in the event of a fire, flood, or other emergency - a list of the emergency response equipment at the scrap collection site, its location, and how it is to be used in the event of a fire or other emergency - a description of the procedures to be followed in the event of a fire, including procedures to contain and dispose of the oily material generated by the combustion of large number of tires - a listing of all hazardous materials stored onsite, their location and information regarding precautions to be taken with these materials. <p>Verify that the operator of the scrap tire collection site immediately notifies the Division in the event of a fire or other emergency involving potential offsite effects.</p> <p>Verify that the facility submits a written report, including the following information, to the Division within 2 weeks of any emergency involving offsite impact:</p> <ul style="list-style-type: none"> - cause(s) of the emergency - actions taken to deal with the emergency - results of the actions taken - an analysis of the success or failure of these actions.
<p>5-49. Scrap tire collection sites must meet recordkeeping requirements (T15A NCAC: 13B.1107(2)(k)).</p>	<p>Verify that the facility maintains the following records at the principal place of in-state business:</p> <ul style="list-style-type: none"> - a copy of the permit with required attachments - records of the quantity of scrap tires and processed tires received at the site, stored at the site, and shipped from the site, including the following: <ul style="list-style-type: none"> - name and address of the destination facility - all certification forms applicable to any tires received, stored or shipped from the site.
<p>5-50. Scrap tire collection sites must meet specific storage requirements (T15A NCAC: 13B.1107(2)(l) and (3)).</p>	<p>Verify that the number of scrap tires stored at the facility does not exceed the stated number of scrap tires shipped offsite per month plus the stated number of scrap tires disposed of onsite per month, unless otherwise specified by the Division.</p> <p>Verify that no more than 60,000 scrap tires are stored at the site.</p> <p>Verify that processed tires are stored in accordance with the requirements of indoor and outdoor storage.</p> <p>Verify that the temperature of any aboveground pile of compacted, processed tires over 1000 yd³ [764.86 m³] is monitored and does not exceed 300 °F [148.89 °C].</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-50. (continued)</p>	<p>(NOTE: Temperature monitoring and controls are not required for processed tires disposed of in permitted landfills.)</p> <p>Verify that any residuals from a scrap tire collection site are managed so as to be contained onsite and are controlled and disposed of in a permitted solid waste management facility or properly recycled.</p> <p>(NOTE: The Division may approve exceptions to the technical and operational standards.)</p>
<p>5-51. Scrap tire disposal sites must meet specific permit and operational requirements (T15A NCAC: 13B.1108).</p>	<p>Determine if the facility operates a permitted scrap tire disposal site.</p> <p>Verify that the permit is recorded with the proper authorities.</p> <p>Verify that the facility maintains a copy of the permit and its required attachments at the principal place of in-state business.</p> <p>Verify that the facility is operated according to the operational and design requirements for disposal sites and sanitary landfills.</p> <p>Verify that a scrap tire monofill is not located in any required buffer zone.</p> <p>Verify that scrap tires are not burned in a permitted solid waste incinerator without a permit modification from the Division.</p> <p>Verify that the following records are maintained for at least 3 yr:</p> <ul style="list-style-type: none"> - records of the quantity of scrap tires and processed tires received and disposed of at the site - all certification forms applicable to any tires received and disposed at the site.
<p>5-52. Nonconforming scrap tire collection or disposal sites must be closed according to specific requirements (T15A NCAC: 13B.1109).</p>	<p>Determine if the site meets the requirements for a scrap tire collection or disposal site.</p> <p>Verify that nonconforming sites are closed.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-52. (continued)</p>	<p>Verify that the facility meets the following closure requirements:</p> <ul style="list-style-type: none"> - prevent public access - post a notice indicating the site is closed and the nearest permitted site where scrap tires can be deposited - notify the Division of the closing and obtain Divisional approval of the plan to remove tires prior to actual tire removal - remove all scrap tires, processed tires and residuals to a waste tire processing facility, solid waste management facility permitted to accept scrap tires or processed tires, a legitimate user of processed tires, or other facility approved by the Division - remove any solid waste to a permitted solid waste management facility - provide documentation that tires were received by an approved facility - notify the Division when closure is complete.
<p>5-53. Scrap tire collection sites permitted in association with scrap tire processing facilities must meet specific operational requirements (T15A NCAC: 13B.1110(a)).</p>	<p>Determine if the installation operates a scrap tire processing facility.</p> <p>Verify that the facility that has reached its storage limit does not accept any scrap tires for processing above the number which can be processed daily.</p> <p>(NOTE: The storage limit is determined by multiplying the daily through-put of the processing equipment used by 30.)</p> <p>Verify that at least 75 percent of both the scrap tires and processed tires that are delivered to or maintained on the site of the scrap tire processing facility are processed and removed for recycling or disposal at a permitted solid waste management facility within 1 yr of their receipt.</p> <p>(NOTE: Processed tires stored for recycling or disposal are subject to the storage requirements specified for scrap tire collection sites, unless otherwise authorized by the Division.)</p>
<p>5-54. Wastes resulting from the operation of a scrap tire processing facility must be evaluated (T15A NCAC: 13B.1110(b)).</p>	<p>Verify that the wastes resulting from the operation of the processing facility are evaluated prior to disposal using the Solid Waste Management General Conditions.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-55. Scrap tire processing facilities must meet recordkeeping requirements (T15A NCAC: 13B.1110(c)).</p>	<p>Verify that the facility records and maintains the following information for 3 yr:</p> <ul style="list-style-type: none"> - for all scrap tires and processed tires shipped from the facility: <ul style="list-style-type: none"> - name of the hauler - the hauler or merchant identification number of the tire hauler who accepted the scrap or processed tires for transport - the quantity of scrap or processed tires shipped with that hauler - destination of scrap or processed tires - documentation of receipt of tires by the receiving facility - for all scrap tires and processed tires received at the facility: <ul style="list-style-type: none"> - the name of the hauler - the hauler or merchant identification number of the scrap tire hauler who delivered the scrap or processed tires to the facility - the quantity of scrap or processed tires received from that hauler - location where the tires originated - for tires received, stored, shipped, or processed: <ul style="list-style-type: none"> - complete certification forms, except for quantities of five tires or less brought for processing by someone other than a tire collector, tire processor, or tire hauler.
<p>5-56. Scrap tire processing facilities must meet reporting requirements (T15A NCAC: 13B.1110(d)).</p>	<p>Verify that the facility submits an annual report to the Division on a Division form by 1 March of each year and includes information collected for the previous calendar year.</p>
<p>5-57. Persons hauling tires must meet specific requirements (T15A NCAC: 13B.1112).</p>	<p>Determine if the persons or facilities engage in transporting scrap and/or processed tires for the purpose of storage, processing or disposal.</p> <p>Verify that the hauler meets the following requirements:</p> <ul style="list-style-type: none"> - register with the Department prior to hauling scrap tires in the state - obtain a scrap tire hauling identification number. <p>Verify that the hauler renews his identification annually and carries a copy of the document assigning the scrap tire registration number or merchant identification number at all times while engaged in hauling scrap tires.</p> <p>(NOTE: A licensed tire retailer that is solely engaged in the hauling of scrap tires received by it in connection with the retail sale of replacement tires is not required to register under this section.)</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>USED OIL MANAGEMENT</p> <p>5-58. Facilities that manage used oil must meet the Federal used oil management requirements (T15A NCAC: 13A.0018(a) through(i)).</p> <p>5-59. Certain facilities are exempt from the used oil reporting requirements (T15A NCAC: 13A.0018).</p> <p>5-60. Specific facilities must meet Departmental reporting requirements (T15A NCAC: 13A.0018(j)).</p>	<p>Determine if the facility manages used oil.</p> <p>Verify that the facility meets all Federal used oil management requirements (see U.S. ECAS Manual).</p> <p>Determine if the facility operates one of the following types of units exempt from the used oil reporting requirements:</p> <ul style="list-style-type: none"> - an electrical utility that generates used oil which is reclaimed, recycled, or re-refined onsite for use in its operation - an onsite burner that burns its own on-specification used oil provided that the facility is in compliance with any air quality permit requirements established by the Department. <p>Determine if the installation operates one of the following types of facilities that must submit an annual report of used oil activities:</p> <ul style="list-style-type: none"> - persons transporting more than 500 gal [1892.71 L] of used oil per week over public highways - collection facilities that annually receive more than 6000 gal [22,712.47 L] of used oil, excluding the volume of used oil collected from individuals that change their own personal motor oil - facilities that annually recycle more than 10,000 gal [37,854.12 L] of used oil - public used oil collection centers. <p>Verify that a facility required to submit an annual report does so by 1 July of each year describing the following information from the preceding calendar year:</p> <ul style="list-style-type: none"> - type and quantity of used oil transported - type and quantity of used oil collected - type and quantity of used oil recycled.

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>MEDICAL WASTE MANAGEMENT</p> <p>5-61. Medical waste must meet specific management requirements (T15A NCAC: 13B.120 2).</p> <p>5-62. Regulated medical waste must meet specific treatment requirements (T15A NCAC: 13B.1203).</p>	<p>Verify that medical waste meets all applicable rules for solid waste management.</p> <p>Verify that sharps are placed in a container that is rigid and leak-proof when in an upright position and puncture resistant while at the generating facility.</p> <p>Verify that the sharps container and its contents are handled in a manner that avoids human contact with the sharps after leaving the generating facility.</p> <p>Verify that blood and body fluids in individual containers of 20 mL [0.68 fl oz] or less that are not stored in a secured area restricted to authorized personnel prior to offsite transportation are packaged according to the requirements for regulated medical wastes or in a container suitable for sharps.</p> <p>Verify that regulated medical waste is not compacted.</p> <p>Verify that contained sharps are not compacted prior to offsite transportation.</p> <p>Verify that containers of blood and body fluids which are packaged according to the requirements for regulated medical wastes or packaged in a container suitable for sharps are not compacted prior to offsite transportation.</p> <p>Verify that regulated medical waste is treated in one of the following acceptable methods prior to disposal:</p> <ul style="list-style-type: none"> - incineration or sanitary sewage systems for blood and body fluids, provided the sewage treatment authority is notified for individual containers greater than 20 mL [0.68 fl oz] in volume - incineration, steam sterilization, or chemical treatment for microbiological waste - incineration for pathological wastes - other methods as approved by the Division. <p>(NOTE: Regulated medical waste treated at the generating facility is not subject to the storage and recordkeeping requirements for medical waste.)</p> <p>(NOTE: Generating facilities in operation on 1 October 1990 that incinerate regulated medical waste are not subject to the burn temperature requirements until 1 January 1995.)</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>MEDICAL WASTE GENERATORS</p> <p>5-63. Generators of regulated medical waste that ship the waste offsite for treatment must meet specific packaging requirements (T15A NCAC: 13B.1204(a)).</p> <p>5-64. Generators of regulated medical waste must meet recordkeeping requirements (T15A NCAC: 13B.1204(b)).</p> <p>5-65. Facilities that generate regulated medical waste must develop an operating plan (T15A NCAC: 13B.1204(c)).</p>	<p>Verify that regulated medical waste is packaged in a minimum of one plastic bag placed in a rigid fiberboard box, rigid drum, or other rigid container constructed in a manner that prevents leakage of the contents.</p> <p>Verify that each plastic bag is impervious to moisture and has a strength sufficient to preclude ripping, tearing or bursting the waste-filled bag under normal conditions of usage and handling.</p> <p>Verify that each plastic bag is constructed of material of sufficient single thickness to pass the 165 g [0.36 lb] dropped dart impact resistance test as prescribed by Standard D 1709-91 of the American Society for Testing and Materials.</p> <p>Verify that regulated medical waste is stored in a manner that maintains the integrity of the packaging at all times.</p> <p>Verify that each package of regulated medical waste is labeled with a water-resistant universal biohazard symbol.</p> <p>Verify that each package of regulated medical waste is marked on the outer surface with the following information:</p> <ul style="list-style-type: none"> - the generator's name, address, and telephone number - the transporter's name, address, and telephone number - the storage facility's name, address, and telephone number, when applicable - the treatment facility's name, address, and telephone number - date of shipment - the words INFECTIOUS WASTE or MEDICAL WASTE. <p>Verify that the following records are maintained for each shipment of medical waste:</p> <ul style="list-style-type: none"> - amount of waste by number of packages (piece count) - date shipped offsite - name of transporter - name of storage or treatment facility. <p>Verify that the records are retained at the generating facility for no less than 3 yr.</p> <p>Verify that the facility develops and maintains an operating plan to ensure proper management of regulated medical waste.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
5-67. (continued)	<p>Verify that the regulated medical waste is not stored longer than 7 calendar days from the generator's date of shipment, unless the waste is refrigerated at an ambient temperature between 35 °F [1.67 °C] and 45 °F [7.22 °C].</p> <p>Verify that only authorized personnel have access to areas used to store regulated medical waste.</p> <p>Verify that all areas used to store regulated medical waste are maintained according to the following requirements:</p> <ul style="list-style-type: none"> - kept clean - vermin and insects are controlled - all floor drains discharge directly to an approved sanitary sewage system - ventilation is provided so that nuisance odors are not created. <p>Verify that a plan is prepared, maintained, and updated, as necessary, to ensure continued proper management of regulated medical waste.</p>
<p>MEDICAL WASTE TREATMENT FACILITIES - OPERATIONAL REQUIREMENTS</p> <p>5-68. Regulated medical waste treatment facilities must meet specific operational requirements (T15A NCAC: 13B.1207 (1)).</p>	<p>Determine if the facility treats regulated medical waste.</p> <p>Verify that refrigeration at an ambient temperature between 35 °F [1.67 °C] and 45 °F [7.22 °C] is maintained for regulated medical waste not treated within 7 calendar days after shipment.</p> <p>Verify that regulated medical waste is stored no longer than 7 calendar days after treatment.</p> <p>Verify that only authorized personnel have access to areas used to store regulated medical waste.</p> <p>Verify that all areas used to store regulated medical waste are kept clean, and vermin and insects are controlled.</p> <p>Verify that carpets and floor coverings with seams are not used in the storage areas.</p> <p>Verify that all regulated medical waste is confined to the storage area prior to treatment.</p> <p>Verify that all floor drains discharge directly to an approved sanitary sewage system.</p> <p>Verify that ventilation is provided so as not to create nuisance odors.</p>

COMPLIANCE CATEGORY: RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
5-68. (continued)	<p>Verify that a plan is prepared, maintained, and updated, as necessary, to ensure continued proper management of regulated medical waste at the facility.</p> <p>Verify that records of the following information about regulated medical waste are maintained for each shipment for no less than 3 yr:</p> <ul style="list-style-type: none"> - name and address of generator - date received - amount of waste received by number of packages from each generator - date treated - name and address of ultimate disposal facility. <p>Verify that regulated medical waste facilities that treat waste generated offsite submit an annual report to the Division, on the appropriate form, by 1 August of each year.</p>
5-69. Medical waste treatment facilities that use steam sterilization must meet specific operating requirements (T15A NCAC: 13B.1207(2)).	<p>Determine if the facility uses steam sterilization for regulated medical waste.</p> <p>Verify that steam under pressure is provided to maintain a minimum temperature of 250 °F [121.11 °C] for 45 min at 15 psi of gauge pressure during each cycle; or other combinations of parameters that are shown to effectively treat the waste.</p> <p>Verify that the steam sterilization unit is provided with both of the following:</p> <ul style="list-style-type: none"> - a chart recorder which accurately records time and temperature of each cycle - a gauge that indicates the pressure of each cycle. <p>Verify that monitoring for effectiveness of treatment is conducted under conditions of full load no less than once a week through the use of biological indicators or other methods approved by the Division.</p> <p>(NOTE: Regulated medical waste may be disposed of until or unless monitoring does not confirm effectiveness.)</p> <p>Verify that a log of each test effectiveness of treatment performed is maintained and includes type of indicator used, date, time, and result of the test.</p>
5-70. Regulated medical waste treatment facilities that use incineration must meet specific operational requirements (T15A NCAC: 13B.1207(3)(a) through (e)).	<p>Determine if the regulated medical waste treatment facility uses incineration.</p> <p>Verify that an Air Quality Permit is obtained from the Division of Environmental Management prior to construction and operation of the incinerator.</p> <p>Verify that the regulated medical waste is not subject to a burn temperature in the primary chamber of less than 1200 °F [648.89 °C].</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-70. (continued)</p>	<p>Verify that automatic auxiliary burners are provided which are capable (excluding the heat content of the waste) of independently maintaining the secondary chamber temperature at the minimum of 1800 °F [982.22 °C].</p> <p>Verify that interlocks or other process control devices are provided to prevent the introduction of waste material to the primary chamber until the secondary chamber achieves operating temperature.</p> <p>Verify that gases generated by the combustion are subjected to a minimum temperature of 1800 °F [982.22 °C] for a period of not less than 1 s.</p> <p>Verify that continuous monitoring and recording of primary and secondary chamber temperatures is performed, and the monitoring data is maintained for 3 yr.</p> <p>Verify that a plan of procedures for obtaining representative weekly and monthly composite ash samples is submitted to the Division for approval prior to system start-up and operation.</p> <p>Verify that the ash sampling plan is modified if the waste composition, loading rate, or loading system are substantially changed.</p>
<p>5-71. Regulated medical waste treatment facilities that use incineration must meet specific ash sampling requirements (T15A NCAC: 13B.1207(3)(f) through (m)).</p>	<p>Verify that ash sampling procedures are initiated at the time the incineration system is first started for normal operations.</p> <p>Verify that the facility meets the following standards for sampling:</p> <ul style="list-style-type: none"> - a representative sample of about 1 kg (2.21 lb) is collected, at a minimum: <ul style="list-style-type: none"> - once every 8 h of operations for a continuously fed incinerator - once for every 24 h of operation for an intermittently operated incinerator - once for every batch of a batch loaded incinerator - collect samples from either the discharge of the ash conveyor or from the ash collection containers prior to disposal - store composite samples in a closed container - analyze representative samples at least twice a year after the first year of operation. <p>(NOTE: Samples are collected weekly, thoroughly mixed, and reduced to a representative sample that is composited into a monthly sample. Composite samples are analyzed quarterly during the first operating year.)</p> <p>Verify that ash samples are tested according to the general requirements for solid waste and submitted to the North Carolina Solid Waste Section.</p>

**COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>COMPOST FACILITIES FOR MUNICIPAL SOLID WASTE (MSW)</p>	
<p>5-73. Installations that compost MSW or MSW co-composted with other wastes must obtain a permit from the Division (T15A NCAC: 13B.1401 and 1402(a) through (c)).</p>	<p>Determine if the installation produces compost from MSW or MSW co-composted with other waste.</p> <p>Determine if the installation operates an exempt compost facility due to the composting of the following wastes:</p> <ul style="list-style-type: none"> - treatment and processing waste - yard waste - industrial process wastes - agricultural wastes - residues from agricultural products - sludge with MSW functioning as a bulking agent - compost facilities operated in accordance with the requirements for yard waste facilities. <p>Determine if the installation operates a compost facility which composts MSW or co-composts MSW with any of the following wastes that must meet the provisions of this section:</p> <ul style="list-style-type: none"> - treatment and processing wastes - yard waste - industrial process wastes - agricultural waste - residues from agricultural products - sludge functioning as a nitrogen source. <p>Verify that the installation obtains a valid MSW permit from the Division.</p> <p>Verify that facilities that co-compost with sludge meet all applicable Federal or state regulations regarding sludge management.</p>
<p>5-74. Specific wastes must not be processed into compost (T15A NCAC: 13B.1403).</p>	<p>Verify that the following wastes are not processed into compost:</p> <ul style="list-style-type: none"> - hazardous waste - asbestos containing waste - household waste. <p>Verify that the facility does not accept waste it cannot process into compost.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-75. Installations that operate a MSW compost facility must meet specific plan and permit requirements (T15A NCAC: 13B.1406(1)).</p> <p>5-76. MSW compost facilities must meet erosion control, surface water, and leachate requirements (T15A NCAC: 13B.1406 (2) through (4)).</p> <p>5-77. MSW compost facilities must meet access, security, safety, and sign requirements (T15A NCAC: 13B.1406(5), (7) and (8)).</p>	<p>Verify that the construction plans and conditions of the permit are followed.</p> <p>Verify that a copy of the permit, plans, and operational reports are maintained onsite.</p> <p>Verify that adequate erosion control methods are practiced to prevent silt from leaving the site and excessive onsite erosion.</p> <p>Verify that surface water is diverted from the operational, compost curing, and storage areas.</p> <p>Verify that leachate is contained onsite or properly treated prior to disposal.</p> <p>Verify that the site is secured by means of gates, chains, berms, fences, or other security measures approved by the Division, to prevent unauthorized entry.</p> <p>Verify that an operator is on duty at the site at all times while the facility is open for public use.</p> <p>Verify that the access road to the site is of all-weather construction and maintained in good condition.</p> <p>Verify that the facility does not allow open burning.</p> <p>Verify that equipment is provided to control accidental fires, and arrangements are made with the local fire protection agency to immediately provide fire-fighting services, when needed.</p> <p>Verify that personnel training is provided to insure that all employees are trained in site specific safety, remedial, and corrective action procedures.</p> <p>Verify that signs providing the following information are posted at the site entrance:</p> <ul style="list-style-type: none"> - dumping procedures - hours during which the site is open for public use - permit number - other pertinent information. <p>Verify that traffic signs/markers are provided, as necessary, to promote an orderly traffic pattern to and from the discharge area and to maintain efficient operating conditions.</p> <p>Verify that signs are posted that state that no hazardous waste, asbestos containing waste, or medical waste can be received at the site.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-78. MSW compost facilities must meet specific monitoring for pathogen reduction requirements (T15A NCAC: 13B.1406(9)).</p>	<p>Verify that specified monitoring and reporting requirements are met.</p> <p>Verify that the installation utilizes one of the following acceptable methods of composting to further reduce pathogens:</p> <ul style="list-style-type: none"> - windrow composting method - static aerated pile composting method - within-vessel composting method. <p>Verify that the temperature of each batch of compost produced is monitored sufficiently to ensure that the pathogen reduction criteria is met.</p>
<p>5-79. MSW compost facilities must meet specific operating requirements (T15A NCAC: 13B.1406(10)).</p>	<p>Verify that the waste storage area and the active composting, curing and compost storage areas meet the following requirements:</p> <ul style="list-style-type: none"> - located on surfaces capable of minimizing releases to the surface immediately below these areas, to the surrounding land surface, and the groundwater - if natural soils are used <ul style="list-style-type: none"> - liner must be at least 18 in. [45.72 cm] thick - liner coefficient of permeability must not be greater than 1×10^{-7} cm/s. <p>Verify that the finished compost meets the classification and distribution requirements of the Division.</p> <p>Verify that non-compostable solid waste and unacceptable compost is disposed of in a manner approved by the Division.</p> <p>Verify that the amount of compost stored at the facility does not exceed the designed storage capacity.</p>
<p>5-80. MSW compost must be classified according to its physical and chemical properties and degree of stabilization (T15A NCAC: 13B.1407 (1) through (5)).</p>	<p>Determine maximum allowable physical characteristics of marketable grades as designated in Appendix 5-2.</p> <p>Determine maximum allowable chemical characteristics codes of marketable grades as designated in Appendix 5-3.</p> <p>Determine degree of stabilization of marketable grades as designated in Appendix 4.</p> <p>Determine the final grades for distribution and marketing of compost from the information in Appendices 5-2 to 5-4.</p> <p>Verify that the maximum accumulation of heavy metal applied to the soils for applications where repeated use of the compost can be expected are as designated in Appendix 5-5.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-81. Distribution of defined grades of MSW compost products must meet specific requirements (T15A NCAC: 13B.1407(6)(a) through (b)).</p>	<p>Verify that restricted professional grade compost is distributed only to commercial, agricultural, or governmental operations.</p> <p>Verify that restricted land applications grade is distributed only for land and mine reclamation, silviculture, and agriculture (nonfood chain crops) projects.</p> <p>(NOTE: Unrestricted grade compost must have unlimited, unrestricted distribution and may be distributed to the public.)</p> <p>Verify that municipal solid waste compost products are not distributed or marketed until the permittee has provided adequate test data to the Division.</p>
<p>5-82. MSW compost facilities that use the compost product for land application projects or for repeated use must meet specific requirements (T15A NCAC: 13B.1407(6)(e)).</p>	<p>Determine if the installation uses the final compost product for land application projects or repeated use is expected.</p> <p>Verify that the installation meets all local, state, and Federal rules and regulations concerning land application.</p> <p>Verify that the maximum accumulative loading rates meet the requirements of Appendix 5-5.</p>
<p>5-83. The compost product from MSW facilities must be sampled and analyzed (T15A NCAC: 13B.1408(1)).</p>	<p>Verify that a composite sample of the compost produced at each MSW compost facility is analyzed at intervals of every 20,000 tons [18,143.69 metric ton] of compost produced or every 3 mo. whichever comes first, for the parameters designated in Appendix 5-6.</p> <p>(NOTE: The parameters listed in Appendix 5-6 of this Rule may also be determined by methods accepted by the North Carolina Department of Agriculture.)</p> <p>Verify that sample collection, preservation, and analysis follow the Division approved quality assurance plan.</p>
<p>5-84. MSW compost facilities must meet reporting and recordkeeping requirements (T15A NCAC: 13B.1408(3)).</p>	<p>Verify that the facility maintains the following records for a minimum of 3 yr:</p> <ul style="list-style-type: none"> - daily operational records which includes the following, at a minimum: <ul style="list-style-type: none"> - temperature data - quantity of material processed - analytical results on compost testing - the quantity, type and source of waste received - the quantity and type of waste processed into compost - the quantity and type of compost produced by product classification - the quantity and type of compost removed for use or disposal, by product classification, and the market or permitted disposal facility.

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-84. (continued)</p> <p>MUNICIPAL SOLID WASTE LANDFILL FACILITIES (MSWLFs)</p> <p>5-85. Installations operating MSWLFs must meet all Federal requirements (T15A NCAC: 13B.1601 (d)).</p> <p>5-86. MSWLF units that receive waste after 9 October 1991 must meet specific requirements (T15A NCAC: 13B.1601(c)(2)).</p> <p>5-87. Installations with MSWLF units must meet specific reporting requirements (T15A NCAC: 13B.1604(b)(2)(L) through (M)).</p>	<p>Verify that the facility submits an annual report to the Division.</p> <p>(NOTE: The North Carolina Department of Environment, Health, and Natural Resources has adopted the Federal regulation 40 CFR Part 258 (MSWLF).)</p> <p>Determine if the installation operates an MSWLF.</p> <p>Verify that the installation meets all Federal MSWLF requirements.</p> <p>Verify that MSWLF units that received solid waste after 9 October 1991 but stop receiving waste before 9 October 1993 meet the solid waste permit and closure requirements.</p> <p>Verify that the cap system was installed by 9 October 1994 and meets the state's design and construction requirements.</p> <p>(NOTE: Owners or operators of MSWLF units that fail to complete cover installation by this date will be subject to all of the requirements applicable to existing MSWLFs.)</p> <p>Verify that the installation gives notice to the Division as soon as possible of any planned physical alterations or additions to the permitted facility.</p> <p>Verify that monitoring results are reported at intervals specified in the permit.</p> <p>Verify that the installation reports orally within 24 h from the time the installation became aware of the circumstances of any release, discharge, fire, or explosion from the permitted landfill facility.</p> <p>Verify that reports are made to the Division representative at the appropriate regional office of the Department of Environment, Health, and Natural Resources.</p> <p>Verify that the installation conducts a survey of the active or closed portions of the installation within 60 days of a request made by the Division, and that the results are reported within 90 days of the Division's request.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-88. Installations with MSWLF units must maintain records of specific information (T15A NCAC: 13B.1604 (b)(2)(K)).</p>	<p>Verify that records of monitoring information include the following:</p> <ul style="list-style-type: none"> - the date, exact place, and time of sampling or measurements - the individual(s) who performed the sampling or measurements - the date(s) analyses were performed - the individual(s) who performed the analyses - the analytical techniques or methods used, including equipment - the results of such analyses.
<p>5-89. Specific types of waste must not be disposed in a MSWLF unit (T15A NCAC: 13B.1604 (b)(2)(N)).</p>	<p>Verify that the following wastes are not disposed of in a MSWLF unit:</p> <ul style="list-style-type: none"> - white goods - used oil - lead-acid batteries - whole tires - yard trash.
<p>MSWLF UNITS - DESIGN AND CONSTRUCTION</p> <p>5-90. Installations with MSWLF units must meet specific design requirements for leachate collection systems (T15A NCAC:13B.1624(b)(2)).</p>	<p>Verify that the leachate collection system is hydraulically designed to remove leachate from the landfill and ensure that the leachate head on the composite liner does not exceed 1 ft [0.30 m].</p> <p>Verify that a means of quantitatively assessing the performance of the leachate collection system under uniform conditions is provided in the engineering plan.</p> <p>Verify that the performance analysis evaluates the flow capacities of the pipe network necessary to convey leachate to the storage facility or offsite transport location.</p> <p>Verify that the engineering analysis incorporates the following criteria:</p> <ul style="list-style-type: none"> - at a minimum, the impingement rate on the drainage layer must be equal to the peak monthly precipitation rate to evaluate the relationship between base slope, drainage layer permeability, and collector pipe spacing - at a minimum, the geometry of the landfill must be designed to control and contain the volume of leachate generated by the 24-h, 25-yr storm - collection pipe flow capacity must be sized to drain the critical volume of leachate generated by the 24-h, 25-yr storm in a specified period of time. <p>Verify that the leachate collection system is designed to provide a zone of protection at least 24 in. [0.61 m] thick separating the composite liner from landfilling activities.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-90. (continued)</p>	<p>Verify that the leachate collection system includes a drainage layer, a pipe network with cleanouts, and the necessary filters designed to prevent physical clogging and promote leachate collection and removal from the landfill.</p>
<p>5-91. Installations with MSWLF units must meet specific requirements for landfill subgrade (T15A NCAC: 13B.1624 (b)(7)).</p>	<p>(NOTE: Landfill subgrade is the <i>In-situ</i> soil layer(s), constructed embankments, and select fill providing the foundation for construction of the unit.)</p> <p>Verify that a foundation analysis is performed to determine the structural integrity of the subgrade to support the loads and stresses imposed by the weight of the landfill and to support overlying facility components and maintain their integrity of the components.</p> <p>Verify that minimum post-settlement slope for the subgrade is 2 percent, and safety factors are adequately specified for facilities located in the seismic impact zones.</p> <p>Verify that the landfill subgrade is adequately free of organic material and consists of in-situ solid or a select fill if approved by the Division.</p> <p>Verify that the landfill is graded in accordance with the Division approved plans and specifications.</p> <p>Verify that, at a minimum, the subgrade surface is inspected in accordance with the following requirements:</p> <ul style="list-style-type: none"> - before beginning construction of the base liner system, the project engineer will visually inspect the exposed surface to evaluate the suitability of the subgrade and document that the surface is properly prepared and that the elevations are consistent with the Division-approved engineering plans - the subgrade must be proof-rolled using procedures and equipment specified by the design or project engineer - the subgrade must be tested for density and moisture content at a minimum frequency specified in the Division-approved plans.
<p>5-92. Installations with MSWLF units must meet design requirements for compacted clay liners (T15A NCAC: 13B.1624 (b)(8)).</p>	<p>(NOTE: Compacted clay liners are low permeability barriers designed to control fluid migration in a cap liner system or base liner system.)</p> <p>Verify that the soil material used are free of particles greater than 3 in. [7.62 cm] in any dimension.</p> <p>Verify that the compacted clay liner for a base liner system is constructed with a minimum thickness of 24 in. [0.61 m] and a permeability of no more than 1×10^{-7} cm/s.</p> <p>Verify that the compacted clay liner for the cap system is constructed with a minimum thickness of 18 in. [0.46 m] and a permeability of no more than 1×10^{-5} cm/s.</p>

**COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
5-92. (continued)	(NOTE: Construction methods for the compacted clay liner must be based upon the type and quantity of the borrow source and be verified in the field by constructing test pad(s). The project engineer must ensure that the compacted liner installation conforms with the Division approved plans.)
5-93. Installations with MSWLF units must meet specific design and construction requirements for geomembrane liners (T15A NCAC: 13B.1624 (b)(9)).	<p>(NOTE: Geomembrane liners are geosynthetic hydraulic barriers manufactured in sheets and installed by field seaming techniques.)</p> <p>Verify that the geomembrane liner material has a demonstrated water vapor transmission rate of not more than 0.03 g/m²/day [0.000712 lb/ft²/day].</p> <p>Verify that the type of geomembrane is approved by the Division.</p> <p>Verify that the project engineer ensures that the geomembrane installation conforms to the requirements of the manufacturer's recommendations and the Division approved plans.</p> <p>Verify that the project engineer submits a construction quality assurance report and includes all required test data.</p> <p>Verify that the installation submits the testing procedures and protocols for field testing to the Division.</p>
5-94. Installations with MSWLF units must meet design and construction requirements for leachate collection pipes (T15A NCAC: 13B.1624 (b)(10)).	<p>(NOTE: Leachate collection pipe networks are a component of the leachate collection system and are hydraulically designed to convey leachate from the MSWLF unit to an appropriately sized leachate storage or treatment facility or a point of offsite transport.)</p> <p>Verify that the leachate collection piping has a minimum nominal diameter of 6 in. [15.24 cm].</p> <p>Verify that the chemical properties of the pipe and any materials used in installation are not adversely affected by waste placement or leachate generated by the landfill.</p> <p>Verify that the physical properties of the pipe provide adequate structural strength to support the maximum static and dynamic loads and stresses imposed by the overlying materials and any equipment used in construction and operation of the landfill.</p> <p>(NOTE: Specifications for the pipe must be submitted in the engineering report.)</p> <p>Verify that leachate collection pipes are installed according to the Division approved plan.</p> <p>Verify that the project engineer completes the construction quality assurance report and includes a discussion of the quality assurance, quality control testing, and the results of all testing.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-94. (continued)</p> <p>5-95. Installations with MSWLF units must meet specific design and construction requirements for drainage layers (T15A NCAC: 13B.1624 (b)(11)).</p>	<p>Verify that testing procedures and protocols for field installation are submitted to the Division.</p> <p>Verify that chemical properties of the drainage layer materials is not adversely affected by waste placement or leachate generated by the landfill.</p> <p>Verify that the physical and hydraulic properties of the drainage layer materials promote lateral drainage of leachate through a zone of relatively high permeability or transmissivity under the predicted loads imposed by overlying materials.</p> <p>Verify that the drainage layers materials are placed according to the Division approved plans and in a manner which prevents equipment from working directly on the geomembrane.</p> <p>Verify that the drainage layer materials are stable on the slopes specified on the engineering drawings.</p> <p>Verify that the project engineer completes the construction quality assurance report and includes a discussion of the quality assurance, quality control testing, and the results of all testing.</p> <p>Verify that testing procedures and protocols for field installation are submitted to the Division.</p>
<p>5-96. Installations with MSWLF units must meet filter layer criteria (T15A NCAC: 13B.1624(b) (12)).</p>	<p>Verify that all filter collection layers used in the leachate collection system are designed to prevent the migration of fine soil particles into a courser grained material, and permit water or gases to freely enter a drainage medium (pipe or drainage layer) without clogging.</p> <p>Verify that the granular soil material used as a filter has no more than 5 percent by weight passing the No. 200 sieve and no soil particles larger than 3 in. [7.62 cm] in any dimension.</p> <p>Verify that geosynthetic filter materials demonstrate adequate permeability and soil particle retention, and chemical and physical resistance which is not adversely affected by waste placement, any overlying material or leachate generated by the landfill.</p> <p>Verify that all filter layers are installed in accordance with the approved engineering plan and specifications.</p> <p>Verify that geosynthetic filter materials are not wrapped directly around leachate collection piping.</p> <p>Verify that the project engineer completes the construction quality assurance report and includes a discussion of the quality assurance, quality control testing, and results of all testing.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
5-96. (continued)	Verify that the testing procedures and protocols for field installation are submitted to the Division.
<p>5-97. Installations with MSWLFs must meet specific horizontal separation requirements (T15A NCAC: 13B.1624 (b)(3)).</p>	<p>Verify that new MSWLF units at a new installation establish a minimum of 300 ft [91.44 m] buffer between the MSWLF units and all property lines.</p> <p>Verify that all MSWLF units at a new installation establish a minimum 500 ft [152.40 m] buffer between the MSWLF unit and existing private residences and wells.</p> <p>Verify that all MSWLF units at new installations establish a minimum 50 ft [15.24 m] buffer between the MSWLF unit and any stream, river, or lake, unless the owner or operator can demonstrate the following:</p> <ul style="list-style-type: none"> - to the Division that the alternative management of the water and any discharge will adequately protect the public health and environment - that the construction activities conform to the requirements of Sections 404 and 401 of the <i>Clean Water Act</i> (CWA). <p>Verify that an adequate buffer distance is established between a new MSWLF units and any existing landfill units to establish a ground water monitoring system.</p> <p>Verify that, at a minimum, a lateral expansion or new MSWLF unit at an existing installation conforms to the requirements of the effective permit.</p>
5-98. Installations with MSWLF units must meet specific vertical separation requirements (T15A NCAC: 13B.1624 (b)(4)).	<p>Verify that the MSWLF unit is constructed so that the post settlement bottom elevation of the base liner system is a minimum of 4 ft [1.22 m] above the seasonal high ground water table and bedrock.</p> <p>(NOTE: The nature of the materials establishing this separation are subject to Division approval.)</p>
5-99. Installations with MSWLF units must meet specific locational requirements (T15A NCAC: 13B.1624 (b)(5) and (6)).	Verify that one permanent benchmark of known elevation measured from U.S. Geological Survey benchmark is established and maintained for each 50 acres [202,342.82 m ²] of developed landfill, or part thereof, at the landfill facility.
5-100. Installations with MSWLF units must submit construction quality assurance reports (T15A NCAC: 13B.1624(b) (15)).	<p>Verify that the construction quality assurance report is submitted:</p> <ul style="list-style-type: none"> - after completing landfill construction in order to qualify the constructed MSWLF unit for permit to operate - after completing construction of the cap system - according to the reporting schedule developed.

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

**REGULATORY
REQUIREMENTS.**

REVIEWER CHECKS:

5-100. (continued)

Verify that the construction quality assurance report includes the following information:

- the results of all construction quality assurance and construction quality control testing
- documentation of any failed test results
- descriptions of procedures used to correct the improperly installed material
- results of all retesting performed
- as-built drawings noting any deviation from the approved engineering plans
- comprehensive narrative of the project
- color photographs of major project features.

Verify that the report bears the seal of the project engineer and a certification that construction was completed in accordance with the following:

- the construction quality assurance plan
- the conditions of the permit to construct
- the requirements of this rule
- acceptable engineering practices.

**MSWLF UNITS -
OPERATIONAL
REQUIREMENTS**

5-101. Installations with MSWLF units must prepare an operation plan (T15A NCAC: 13B.1625).

Verify that the existing MSWLF unit meets the following requirements:

- the operation plan is prepared as the information becomes available
- the plan is completed and submitted on or before 9 April 1994
- the plan describes the existing phase of landfill development through the final receipt of waste.

Verify that new MSWLF units and lateral expansions submit operation plan in accordance with the requirements for new MSWLF units and define each phase of operation as an area which will contain approximately 5 yr of disposal capacity.

5-102. Installations with MSWLF units must meet specific requirements with regards to waste acceptance and disposal (T15A NCAC: 13B.1626(1)).

Verify that the MSWLF unit accepts only those wastes it is permitted to receive.

Verify that the installation notifies the Division within 24 h of attempted disposal of any waste the landfill is not permitted to receive, including waste from outside the area the landfill is permitted to serve.

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D) RCRA
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
5-102. (continued)	<p>Verify that the landfill does not accept the following prohibited wastes for disposal:</p> <ul style="list-style-type: none"> - hazardous waste, including waste from conditionally exempt small quantity generators - PCB wastes - liquid wastes unless they are managed according to liquids restrictions requirements. <p>Verify that spoiled foods, animal carcasses, abattoir waste, hatchery waste, and other animal waste delivered to the disposal site is covered immediately.</p> <p>Verify that asbestos waste is managed according to the Federal requirements.</p> <p>Verify that wastewater treatment sludges are only accepted for disposal in accordance with the following conditions:</p> <ul style="list-style-type: none"> - utilized as a soil conditioner and incorporated into or applied into the vegetative growth layer but, in no case greater than 6 in. [15.24 cm] in depth - codisposed if the facility meets all design requirements of the permit or has been previously approved as a permit condition. <p>Verify that the MSWLF unit implements a program at the facility for detecting and preventing the disposal of hazardous and liquid wastes including, at a minimum, the following:</p> <ul style="list-style-type: none"> - random inspections of incoming loads or other comparable procedures - records of any inspections - training of facility personnel to recognize hazardous and liquid wastes - development of a contingency plan to properly manage any identified hazardous and liquid wastes addressing identification, removal, storage, and final disposition of wastes. <p>Verify that waste placement at existing MSWLF units not designed and constructed with a base liner system approved by the Division is within the areal limits of the actual waste boundary established prior to 9 October 1993 and in a manner consistent with the effective permit.</p> <p>Verify that waste placement at existing MSWLF units designed and constructed with a base liner system permitted by the Division prior to 9 October 1993 and approved for operation by the Division is within the areal limits of the base liner system and in manner consistent with the effective permit.</p> <p>Verify that areas which will not have additional wastes placed on them for 12 months or more, but where termination of disposal operations has not occurred, are covered with a minimum of 1 ft [0.30 m] of intermediate cover.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-103. Installations with MSWLF units must meet operational air criteria (T15A NCAC: 13B.1626 (5)(b) through (d)).</p>	<p>Verify that open burning of solid waste, except for the infrequent burning of land clearing debris generated onsite or debris from emergency cleanup operations, is prohibited at the MSWLF unit.</p> <p>Verify that the infrequent open burning is approved by the Division.</p> <p>Verify that equipment is provided to control accidental fires or arrangements are made with the local fire protection agency to immediately provide fire-fighting services when needed.</p> <p>Verify that verbal notice is provided to the Division within 24 h of a fire at the MSWLF unit, and a written notification is submitted within 15 days.</p>
<p>5-104. Installations with MSWLF units must meet access and safety requirements (T15A NCAC: 13B.1626(6)).</p>	<p>Verify that the MSWLF is adequately secured by means of gates, chains, berms, fences, and other security measures approved by the Division to prevent unauthorized entry.</p> <p>Verify that an attendant is on duty at the site at all times while it is open for public use to ensure compliance with operational requirements.</p> <p>Verify that the access road to the site is of all-weather construction and maintained in good condition.</p> <p>Verify that dust control measures are implemented when necessary.</p> <p>Verify that signs providing information on dumping procedures, the hours during which the site is open for public use, the permit number, and other pertinent information specified in the permit conditions are posted at the site entrance.</p> <p>Verify that signs are posted stating that no hazardous or liquid waste can be received.</p> <p>Verify that traffic signs or markers are provided as necessary to promote an orderly traffic pattern to and from the discharge area and to maintain efficient operating conditions.</p> <p>Verify that solid waste is not removed from the MSWLF unless the owner or operator approves and the removal is not performed on the working face.</p> <p>Verify that barrels and drums are not disposed of unless they are empty and perforated sufficiently to ensure that no liquid or hazardous waste is contained therein, except fiber drums containing asbestos.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-105. Installations with MSWLF units must meet erosion and sedimentation control requirements (T15A NCAC: 13B.1626(7)).</p>	<p>Verify that adequate sediment control measures (structures or devices) are utilized to prevent silt from leaving the MSWLF facility and to prevent excessive onsite erosion.</p> <p>Verify that provisions for a vegetative ground cover sufficient to restrain erosion are accomplished within 30 working days or 120 calendar days upon completion of any phase of MSWLF development.</p>
<p>5-106. Installations with MSWLF units must meet drainage control and water protection requirements (T15A NCAC: 13B.1626(8)).</p>	<p>Verify that surface water is diverted from the operational area and not impounded over or in waste.</p> <p>Verify that solid waste is not disposed of in water.</p> <p>Verify that leachate is contained onsite or properly treated prior to discharge.</p> <p>(NOTE: An NPDES permit may be required prior to the discharge of leachate to surface water.)</p> <p>Verify that MSWLF units do not do the following:</p> <ul style="list-style-type: none"> - cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the CWA, including, but not limited to, the NPDES requirements, pursuant to Section 402 - cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirements of an area-wide or state-wide water quality management plan that has been approved under Section 208 or 319 of the CWA, as amended.
<p>5-107. Installations with MSWLF units must meet spreading and compacting requirements (T15A NCAC: 13B.1626(11)).</p>	<p>Verify that MSWLF units restrict solid waste into the smallest area feasible.</p> <p>Verify that solid waste is compacted as densely as practical into cells.</p> <p>Verify that appropriate methods such as fencing and diking are provided within the area to confine solid waste subject to be blown by the wind.</p> <p>Verify that, at the end of each day of operation, all windblown material resulting from the operation is collected and returned to the area by the owner or operator.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-108. Installations with MSWLF units must develop leachate management plans (T15A NCAC: 13B.1626(12)).</p>	<p>Verify that a MSWLF unit designed with a leachate collection system establishes and maintains a leachate management plan which, at a minimum, includes the following:</p> <ul style="list-style-type: none"> - periodic maintenance of the leachate collection system - maintaining the records for the amounts of leachate generated - semiannual leachate quality sampling - approval for final leachate disposal - a contingency plan for extreme operational conditions.
<p>MSWLF UNITS - CLOSURE REQUIREMENTS</p> <p>5-109. Existing MSWLF units not designed and constructed with a base liner system must meet specific closure requirements (T15A NCAC: 13B.1626(10)).</p>	<p>Verify that the MSWLF unit ceases receiving waste on or before 1 January 1998.</p> <p>Verify that final contours for the existing MSWLF unit are consistent with the capacity requirements necessary to close the unit in accordance with the state requirements.</p>
<p>MSWLF UNITS - GROUNDWATER MONITORING REQUIREMENTS</p> <p>5-110. Installations with MSWLF units must meet additional groundwater monitoring requirements (T15A NCAC: 13B.1632 (j)).</p>	<p>Verify that, within 14 days of completing the statistical analysis for the analytical data from the groundwater samples, the installation submits a report to the Division that includes all information from the sampling event including the following for each well any constituents that exceed groundwater standards or show a statistically significant increase over background levels:</p> <ul style="list-style-type: none"> - field observations relating to the condition of the monitoring wells - field data - laboratory data - statistical analysis - sampling methodologies - quality assurance and quality control data - information on groundwater flow direction - calculations of groundwater flow rate - any other pertinent information related to the sampling event.

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>MSWLF UNITS - LEACHATE STORAGE REQUIREMENTS</p> <p>5-111. Installations that construct leachate storage tanks and surface impoundments at solid waste landfill facilities after 9 October 1993 must be permitted by the Division (T15A NCAC: 13B.1680 (b)).</p> <p>5-112. MSWLF units with aboveground or on-ground leachate storage tanks must meet specific requirements (T15A NCAC: 13B.1680(c)).</p>	<p>Verify that the installation obtains the appropriate permit to construct a landfill facility which includes leachate storage facilities.</p> <p>Verify that the tank is constructed of concrete, steel, or other material approved by the Division.</p> <p>Verify that the tank is supported on a well drained stable foundation which prevents movement, rolling, or settling of the tank.</p> <p>Verify that the exteriors surfaces of all aboveground and onground steel storage tanks are protected by a primer coat, a bond coat, and two or more final coats of paint or have at least an equivalent surface coating system designed to prevent corrosion and deterioration.</p> <p>Verify that the interior of all aboveground and onground tanks consists of a material or is lined with a material resistant to the liquid being stored.</p> <p>Verify that all aboveground and onground tanks have a secondary containment system which may consist of dikes, liners, pads, ponds, impoundments, curbs, ditches, sumps, or other systems capable of containing the liquid stored.</p> <p>Verify that the secondary containment system is constructed of a material compatible with the liquid being stored, and the design volume is 110 percent of the volume of either the largest tank within the containment system or the total volume of all interconnected tanks, whichever is greater.</p> <p>Verify that a system is designed to contain and remove stormwater from the secondary containment area which includes the removal of any accumulated precipitation within 24 h or when 10 percent of the storage capacity is reached, whichever occurs first.</p> <p>Verify that all aboveground and onground tanks are equipped with an overfill prevention system which includes, but is not limited to, level sensors and gauges and high level alarms or automatic shut-off control.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
5-112. (continued)	<p>Verify that the overfill control equipment is inspected weekly by the facility operator to ensure it is in good working order.</p> <p>Verify that the exterior of all tanks is inspected weekly for leaks, corrosion, and maintenance deficiencies.</p> <p>Verify that interior inspection of tanks is performed according to the Division approved plan.</p> <p>Verify that inspection reports are maintained and made available to the Division upon request.</p> <p>Verify that remedial measures are taken if the inspection reveals a tank or equipment deficiency which could result in failure of the tank to contain the liquid.</p> <p>Verify that all uncovered tanks have a minimum of 2 ft [0.61 m] of freeboard and that odor and vector control are practiced when necessary.</p>
<p>5-113. MSWLF units with underground leachate storage tanks must meet specific requirements (T15A NCAC: 13B.1680(d)).</p>	<p>Verify that underground tanks are placed a minimum of 2 ft [0.61 m] above the seasonal high ground water table and a minimum of 2 ft [0.61 m] vertical separation is maintained between bedrock and the lowest point of the tank.</p> <p>Verify that the tank is constructed of fiberglass reinforced plastic, steel that is cathodically protected, steel that is clad with fiberglass, or any other materials approved by the Division.</p> <p>Verify that a secondary containment system and continuous leak detection system is installed in the form of a double walled tank, designed as an integral structure so that any release from the inner tank is completely contained by the outer shell.</p> <p>Verify that the leak detection system is monitored at least weekly using methods specified by the operator and approved by the Division.</p> <p>Verify that any tank system vulnerable to corrosion is protected from both corrosion of the primary tank interior and the external surface of the outer shell.</p> <p>Verify that all resistant coatings applied to the primary tank interior are chemically compatible with the liquid to be stored.</p> <p>Verify that all cathodic protection systems, where installed, are inspected at least weekly by the facility operator and any deficiencies corrected when discovered.</p> <p>Verify that all underground tanks are equipped with an overfill prevention system which may include, but is not limited to, level sensors and gauges, high level alarms or automatic shutoff controls.</p> <p>Verify that the overfill control equipment is inspected weekly by the facility operator to ensure that it is in good working order.</p>

COMPLIANCE CATEGORY: RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
5-113. (continued)	<p>Verify that inspection and leak detection monitoring reports are maintained and made available upon request for the lifetime of the liquid storage system.</p>
<p>5-114. MSWLF units using surface impoundments for leachate storage must meet specific requirements (T15A NCAC: 13B.1680(e)).</p>	<p>Verify that any surface impoundment is constructed so that the bottom elevation of liquid is a minimum of 4 ft [1.22 m] above the seasonal high ground water table and bedrock.</p> <p>Verify that, at a minimum, the surface impoundment is designed and constructed with a liner system equivalent to the liner system for the landfill unit generating the liquid.</p> <p>Verify that a surface impoundment designed and constructed to store leachate from a new MSWLF unit includes a composite liner.</p> <p>Verify that the construction of the liner system components is consistent with the state's requirements, and a construction quality assurance report is prepared by the project engineer.</p> <p>Verify that the top liner is protected from degradation and damage.</p> <p>Verify that a minimum of 2 ft [0.61 m] of freeboard is maintained in the surface impoundment, and odor and vector control is practiced when necessary.</p> <p>Verify that a groundwater monitoring system is installed and sampled in a manner consistent with the groundwater monitoring requirements for MSWLF units or an alternative monitoring system approved by the Division.</p> <p>Verify that an operation plan is prepared and followed for operation of the surface impoundment.</p>
<p>5-115. MSWLF units with leachate storage capabilities must meet special requirements for closure of the leachate storage facilities (T15A NCAC: 13B.1680(f)).</p>	<p>Verify that the owner or operator of the facility prepares a written closure plan for the liquid storage facility and submits the plan with the permit application for the solid waste management facility.</p> <p>Verify that the facility completes closure activities in accordance with the approved closure plan and within 180 days after liquid collection has ceased.</p> <p>Verify that all solid waste is removed from the tank or surface impoundment, connecting lines, and any associated secondary containment systems at closure and properly handled and disposed of according to Federal and state requirements.</p> <p>Verify that all connecting lines are disconnected and securely capped or plugged.</p> <p>Verify that underground tanks are removed or thoroughly cleaned to remove traces of waste and all accumulated sediments and then filled to capacity with a solid inert material, such as clean sand or concrete slurry.</p>

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>5-115. (continued)</p>	<p>Verify that, if ground water surrounding the tank is found to be contaminated, the tank and surrounding contaminated soil is removed and appropriately disposed.</p> <p>(NOTE: Other corrective actions to remediate the containment plume may be required by the Department.)</p> <p>Verify that accessways to aboveground and onground tanks are securely fastened in place to prevent unauthorized access.</p> <p>Verify that tanks are either stenciled with the date of permanent closure or removed and secondary containment systems are perforated to provide for drainage.</p> <p>Verify that all waste residues, contaminated system components, contaminated subsoils, structures and equipment contaminated with waste for surface impoundments are removed and appropriately disposed.</p> <p>Verify that, if the groundwater surrounding the impoundment is found not to be contaminated, the liner system may remain in place if drained, cleaned to remove all traces of waste, and both liners punctured so that drainage is allowed.</p> <p>Verify that the impoundment is backfilled and regraded to the surrounding topography.</p> <p>(NOTE: If the groundwater surrounding the impoundment is contaminated, other corrective actions to remediate a contaminant plume may be required by the Department.)</p>

Appendix 5-1

Soil Cation Exchange Capacity (T15A NCAC: 13B.811(7))

The lifetime addition of cadmium to the soil at a septage disposal facility must not exceed the following values.

< 5 (sands)	5-15 (loams)	> 15 (clays)
5*	9*	18*

* cadmium content in lb/acre

Appendix 5-2

Maximum Allowable Physical Characteristics of Marketable Grades of MSW Compost Product (T15A NCAC: 13B.1407(1))

Grade	Maximum Particle Size (in.)	Maximum Percent Foreign Matter (percent of dry weight inerts)
Limit	1.0	6.0

Appendix 5-3

Maximum Allowable Chemical Characteristics Codes of Marketable Grade of MSW Compost Product

Source: (T15A NCAC: 13B.1407(2))

Parameter (mg/kg dry weight)	Code 1	Code 2
Mercury	10	15
Cadmium	10	25
Nickel	200	500
Copper	800	1200
Lead	250	1000
Chromium	1000	2000
Zinc	1000	2500
Total PCB's	2	10

Appendix 5-4

Degree of Stabilization of Marketable Grades of MSW Compost Product (T15A NCAC: 13B.1407(3))

Degree	Meets	Reduction in Organic Matter (ROM)
Fresh	PFRP*	20 - 40%
Semi-mature	PFRP	40 - 60%
Mature	PFRP	over 60%

* PFRP: process to further reduce pathogens

Appendix 5-5

Maximum Accumulation of Heavy Metals (T15A NCAC: 13B.1407(5))

For applications where repeated use of the compost can be expected, such as in agricultural applications or land reclamation, the maximum accumulation of heavy metals applied to the soil must be the following.

Range of Cation Exchange Capacity of Soil (CEC)				
CEC	1 - 5	6 - 10	11 - 15	> 15
Maximum Cumulative Loading Rate (lb/acre)				
HEAVY METAL				
Lead	65	125	250	500
Zinc	50	75	125	250
Copper	25	45	65	125
Nickel	25	45	65	125
Cadmium	2	3	4	5

The CEC of the soil (prior to placement of compost products) may be determined by procedures accepted by the North Carolina Department of Agriculture or the U.S. Environmental Protection Agency (USEPA) test method 9081.

Appendix 5-6

Testing and Sampling Parameters

Source: (T15A NCAC: 13B.1408(1)(a))

A composite sample of the compost produced at each compost facility must be analyzed at intervals of every 20,000 tons of compost produced or every 3 mo, whichever comes first, for the following parameters.

Parameter	Unit	Method
Moisture	%	USEPA 160.3
Reduction in Organic Matter (ROM)	%	See equation for figuring ROM
Organic Matter	%	USEPA 160.4
Foreign Matter	%	Use Division's method of determining foreign matter content
Cadmium	mg/kg dry weight	USEPA 3050/7130
Copper	mg/kg dry weight	USEPA 3050/7210
Lead	mg/kg dry weight	USEPA 3050/7420
Nickel	mg/kg dry weight	USEPA 3050/7520
Zinc	mg/kg dry weight	USEPA 3050/7950
Chromium	mg/kg dry weight	USEPA 3050/7140
Mercury	mg/kg dry weight	USEPA 3050/7471
Fecal Coliform	# organisms/100 mL	Standard 9222
Soluble Salts	millimhos/cm	Solubridge 1 and gml.2 ratio
PCB's	mg/kg dry weight	USEPA 8080
pH	standard	USEPA 9045

The parameters listed above may also be determined by methods accepted by the North Carolina Department of Agriculture.



INSTALLATION:	COMPLIANCE CATEGORY: RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D) <i>North Carolina Supplement</i>	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 6

**RESOURCE CONSERVATION AND RECOVERY ACT,
SUBTITLE I (RCRA-I)**

North Carolina Supplement

SECTION 6

RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE I (RCRA-I)

North Carolina Supplement

The following standards were adopted by reference in the North Carolina Administrative Code (NCAC), Title 15A, Department of Environment, Health, and Natural Resources, Chapter 2, Environmental Management, Subchapter 2N, Underground Storage Tanks (USTs), Criteria and Standards Applicable to Underground Storage Tanks: 40 Code of Federal Regulations (CFR) 280.10 through 280.74. This protocol covers requirements that are additions to the Federal requirements.

Definitions

The following definitions were obtained from 15A NCAC 2N .0203 and supersede those in 40 CFR 280.12 which were adopted by reference. Some of these definitions clarify material found only in the above CFR sections, others are found only in the state's own additions to the adopted CFR sections.

- *Air Gap Separator* - the physical vertical separation between the free flowing discharge end of a potable water supply pipe line and the open or nonpressure receiving vessel.
- *De Minimus Concentration* - that amount of regulated substance that does not exceed 1 percent of the capacity of the tank, excluding piping and vent lines.
- *Director* - the Director of the Division of Environmental Management.
- *Director of the Implementing Agency* - the Director of the Division of Environmental Management.
- *Division* - the Division of Environmental Management.
- *Expediently Emptied After Use* - the removal of a regulated substance from an emergency spill or overflow containment UST system within 48 h after the necessity for use of the UST system has ceased.
- *Implementing Agency* - the Division.
- *Person Qualified to Assess Site Conditions* - a person who, through a combination of training and experience, is competent to evaluate the conditions existing at an UST system site, including the physical and chemical conditions of the subsurface.
- *Previously Closed* - a UST system from which all regulated substances had been removed using commonly employed practices, the tank filled with a solid inert material, and tank openings were sealed or capped prior to 22 December 1988, or an UST system removed from the ground prior to 22 December 1988.

- *Secondary Containment* - a method or combination of methods of release detection for UST systems that include:
 1. for tanks, double-walled construction, external liners (including vaults) or other methods, approved by the Division, that meet the requirements of 40 CFR 280.32(b)(5)
 2. for underground piping, trench liners, double-walled construction or other methods, approved by the Division, that meet the provisions of 40 CFR 280.42(b)(5).

**RESOURCE RECOVERY AND CONSERVATION ACT, SUBTITLE I
(RCRA-I)**

GUIDANCE FOR NORTH CAROLINA CHECKLIST USERS

APPLICABILITY:	REFERS TO CHECKLIST ITEMS:
All Installations	6-1
Reporting and Recordkeeping	6-2
Notification	6-3
UST Siting	6-4
UST Design	6-5 and 6-6
Release Detection Wells	6-7 and 6-8
Initial Abatement Measures and Site Check	6-9
Site Assessment at Closure or Change in Service	6-10

COMPLIANCE CATEGORY:
RESOURCE RECOVERY AND CONSERVATION ACT, SUBTITLE I (RCRA-I)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>ALL INSTALLATIONS</p> <p>6-1. All installations with USTs must comply with specific operational requirements (15A NCAC 2N .0104 and .0201).</p> <p>REPORTING AND RECORDKEEPING</p> <p>6-2. Installations must report specific information to the Division (15A NCAC 2N .0405(b) and (c)).</p> <p>NOTIFICATION</p> <p>6-3. Installations must notify the Division of the intent to perform specific actions (15A NCAC 2N .0303(1) and (2)).</p>	<p>Verify that the installation maintains a current diagram for each UST, with the following information clearly indicated:</p> <ul style="list-style-type: none"> - its location with respect to property boundaries and any permanent onsite structures - its total capacity in gallons - the exact type of petroleum product or hazardous substance stored - the year the tank was installed. <p>Verify that USTs containing <i>de minimis</i> concentrations of regulated substances are permanently closed.</p> <p>Verify that the following activities are reported to the Division within 30 days of their completion:</p> <ul style="list-style-type: none"> - results of the site investigation conducted at permanent closure - installation of vapor monitoring and groundwater monitoring devices - a description of the upgrading of any UST system - certification of the proper operation of a corrosion protection system upon completion of testing and at a frequency specified by the Division - certification of compliance with leak detection requirements specifying the leak detection method and date of compliance for each UST. <p>Verify that the installation submits to the Division a notice of intent to conduct any of the following activities at least 30 days before the activity is begun:</p> <ul style="list-style-type: none"> - installation of a new UST system - installation of a leak detection device installed outside of the outermost wall of the tank and piping, such as vapor detection or groundwater monitoring devices - permanent closure or change-in-service of an UST system.

COMPLIANCE CATEGORY:
RESOURCE RECOVERY AND CONSERVATION ACT, SUBTITLE I (RCRA-I)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>UST SITING</p> <p>6-4. USTs must be sited according to specific requirements (15A NCAC 2N .0301(b) and (c)).</p>	<p>Verify that UST systems are not installed within 100 ft [30.48 m] of a well serving a public water system, or within 50 ft [15.24 m] of any other well supplying water for human consumption.</p> <p>(NOTE: An UST system existing on 1 January 1991 and located within 100 ft [30.48 m] of a well serving a public water system, or within 50 ft [15.24 m] of any other well supplying water for human consumption may be replaced with a new tank meeting new tank performance standards and secondary containment requirements. However, the replacement UST system must not be located nearer to the water supply source than the system that is being replace.)</p>
<p>UST DESIGN</p> <p>6-5. In specific locations, USTs must meet specific release detection requirements (15A NCAC 2N .0301 (d) and .0302).</p>	<p>Verify that the following USTs meet the release detection requirements for new hazardous substance USTs:</p> <ul style="list-style-type: none"> - USTs within 500 ft [152.40 m] of a well serving a public water supply or within 100 ft of any other well supplying water for human consumption - USTs within 500 ft [152.40 m] of any surface water classified as high quality water (HQW), outstanding resource waters (ORW), WS-I, WS-II, or SA - USTs in a location determined by the Director to be unsuitable for conventional installation based on an evaluation of the site by Division staff. <p>Verify that USTs are upgraded according to the Federal requirements for upgrading of existing UST systems, piping, and spill and overflow prevention equipment, and is provided with secondary containment according to the Federal requirements for hazardous substance USTs.</p> <p>Verify that any upgraded UST system is not located nearer to a source of drinking water supply than its location prior to being upgraded.</p> <p>Verify that the installation submits to the Division a description of the upgrading of any UST system within 30 days following completion.</p> <p>(NOTE: UST systems upgraded prior to 1 January 1991 are in compliance with these requirements.)</p> <p>(NOTE: The Federal requirements for upgrading are those described in 40 CFR 280.21(b) through (d) and 40 CFR 280.42(b)(1) through (4)).</p>

COMPLIANCE CATEGORY: RESOURCE RECOVERY AND CONSERVATION ACT, SUBTITLE I (RCRA-I) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
6-6. Installations with petroleum UST systems must meet specific design requirements (15A NCAC 2N .0502).	<p>Verify that the following USTs meet the Federal requirements for secondary containment for new hazardous substance UST systems:</p> <ul style="list-style-type: none"> - USTs within 500 ft [152.40 m] of a well serving a public water supply or within 100 ft of any other well supplying water for human consumption - USTs within 500 ft [152.40 m] of any surface water classified as HQW, ORW, WS-I, WS-II, or SA - USTs in a location determined by the Director to be unsuitable for conventional installation based on an evaluation of the site by Division staff. <p>(NOTE: The Federal requirements for secondary containments are those described in 40 CFR 280.42(b)(1) through (4)).</p>
RELEASE DETECTION WELLS 6-7. Release detection systems for hazardous substance USTs must meet specific requirements (15A NCAC 2N .0504(a) through (c), (e) and (f)).	<p>Verify that wells used for monitoring or testing for liquids in the groundwater meet the following requirements:</p> <ul style="list-style-type: none"> - for new locations, the wells are located within and at the end of the excavation having the lowest elevation and along piping at intervals not exceeding 50 ft [15.24 m] - for existing installations, the wells are located in the excavation zone or as near to it as technically feasible and installed in a borehole at least 4 in. [10.16 m] larger than the diameter of the casing - wells are a minimum of 2 in. [5.08 cm] in diameter - the number of wells is sufficient to detect releases from the UST system - wells are equipped with a screen that extends from 2 ft [0.61 m] below land surface to a depth of 20 ft [6.10 m] below land surface or 2 ft [0.61 m] below the seasonal low water level, whichever is shallower - screens are designed and installed to prevent the migration of natural soils or filter pack into the well while allowing the entry of regulated substances into the well under both high and low groundwater level conditions - wells are surrounded with clean sand or gravel to the top of the screen, plugged, and grouted the remaining distance to finished grade with cement grout - wells are constructed of a permanent casing and screen material that is inert to the stored substance and is corrosion resistant - wells are developed upon completion of installation until the water is clean and relatively sediment free - wells are protected with a water tight cover and lockable cap - wells are labeled as a liquid monitor well

COMPLIANCE CATEGORY: RESOURCE RECOVERY AND CONSERVATION ACT, SUBTITLE I (RCRA-I) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
6-7. (continued)	<ul style="list-style-type: none"> - wells are equipped with a continuously operating liquid leak detection device <ul style="list-style-type: none"> - for tanks storing petroleum products, this liquid leak detection device is tested at least once every 14 days with a device or hydrocarbon-sensitive paste capable of detecting the liquid stored - for tanks storing petroleum products, this liquid leak detection device is sampled and tested at least once every 14 days for the presence of the stored substance. <p>(NOTE: Wells used for monitoring or testing for liquids on the groundwater at new installations, and constructed as above are permitted according to the North Carolina Well Construction Standards.)</p> <p>Verify that wells used for monitoring for the presence of vapors in the soil gas of the excavation zone are equipped with a continuously operating vapor detection device or are tested at least once every 14 days for the presence of the substance stored.</p> <p>Verify that the site assessments required in connection with the tank release detection methods of vapor monitoring and groundwater monitoring are conducted by or under the supervision of a person qualified to assess site conditions.</p>
6-8. Records of well completion and abandonment must be reported to the Division (15A NCAC 2N .0504(d)).	<p>Verify that when the installation completes or abandons any well, the installation submits to the Division a record of the construction or abandonment.</p> <p>Verify that the certified record of completion or abandonment is submitted within 30 days after completion or abandonment.</p> <p>Verify that for public water supply wells, a copy of each completion or abandonment record is submitted to the Health Department responsible for the county in which the well is located, including the following information:</p> <ul style="list-style-type: none"> - certification that construction or abandonment was completed in compliance with the law - the installation's name and address - the well location, diameter, depth, and yield.

COMPLIANCE CATEGORY: RESOURCE RECOVERY AND CONSERVATION ACT, SUBTITLE I (RCRA-I) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
INITIAL ABATEMENT MEASURES AND SITE CHECK 6-9. Installations must conduct free product removal according to specific timetables (15A NCAC 2N .0703 and .0704).	Verify that when the installation conducts initial abatement measures, the installation begins free product removal within 14 days. (NOTE: Approval for an extension of time may be granted by the Division.)
SITE ASSESSMENT AT CLOSURE OR CHANGE IN SERVICE 6-10. Site assessment at closure or change-in must meet specific requirements (15A NCAC 2N .0803(2) and (3)).	Verify that site assessments are conducted by a person qualified to assess site conditions. Verify that the number and location of samples, and methods of their collection, are determined in accordance with procedures established by the Department.

INSTALLATION:	COMPLIANCE CATEGORY: RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE I (RCRA-I) North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 7

**COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION,
AND LIABILITY ACT/ SUPERFUND AMENDMENTS AND
REAUTHORIZATION ACT (CERCLA/SARA)
AND RCRA CORRECTIVE ACTIONS**

North Carolina Supplement

SECTION 7

COMPREHENSIVE ENVIRONMENTAL RESPONSE, AND COMPENSATION LIABILITY ACT / SUPERFUND AMENDMENT AND REAUTHORIZATION ACT (CERCLA/SARA) AND RCRA CORRECTIVE ACTIONS

North Carolina Supplement

Regulations promulgated under the authority of CERCLA/SARA are applicable to installations in North Carolina. North Carolina regulations under several sections require release reporting. Refer to the U.S. ECAS Manual for Federal, Army, and DOD requirements.

INSTALLATION:	COMPLIANCE CATEGORY: COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT/ SUPER- FUND AMENDMENTS AND REAUTHORIZATION ACT AND RCRA CORRECTIVE ACTIONS North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 8

TOXIC SUBSTANCES CONTROL ACT (TSCA)

North Carolina Supplement

SECTION 8

TOXIC SUBSTANCES CONTROL ACT (TSCA)

North Carolina Supplement

North Carolina regulates polychlorinated biphenyls (PCBs) under surface and groundwater standards. See Protocol 8 in the U.S. ECAS Manual for Federal, Army, and DOD requirements.

INSTALLATION:	COMPLIANCE CATEGORY: TOXIC SUBSTANCES CONTROL ACT (TSCA) North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 9

FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)

North Carolina Supplement

SECTION 9

FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)

North Carolina Supplement

Definitions

These definitions were taken from North Carolina Administrative Code (NCAC), Title 2, Food and Drug Protection Division, Subchapter 9L - Pesticide Section, Sections .0100 through .2100.

- *Active Ingredient* -
 1. in the case of a pesticide other than a plant regulator, defoliant, or desiccant, an ingredient that will prevent, destroy, repel or mitigate any pest
 2. in the case of a plant regulator, an ingredient that, through physiological action, will accelerate or retard the rate of growth or rate of maturation, or otherwise alter the behavior of plants or the product
 3. in the case of a defoliant, an ingredient that will cause the leaves or foliage to drop from a plant
 4. in the case of a desiccant, an ingredient that will artificially accelerate the drying of plant tissue.
- *Adverse Effect* - personal injury, damage to personal property, damage to real property, damage to the environment or any combination of these.
- *Board* - the North Carolina Pesticide Board.
- *Container* - any package, can bottle, bag, barrel, drum, tank, or other containing device (excluding spray applicator tanks) used to enclose a pesticide or pesticide-related wastes.
- *Defoliant* - any substance or mixture of substances intended for causing the leaves or foliage to drop from a plant, with or without causing abscission.
- *Desiccant* - any substance or mixture of substances intended for artificially accelerating the drying of plant tissue.
- *Drift* - the airborne movement of pesticides resulting from the application of pesticides such as to carry the pesticides beyond the target area.
- *Equipment* - any type of ground, water, or aerial equipment or contrivance using motorized, mechanical, or pressurized power and used to apply any pesticide on land and anything that may be growing, habitating or stored on or in the land, but does not include any pressurized hand sized household apparatus used to apply any pesticide or any equipment or contrivance for which the person who is applying the pesticide is the source of power or energy in making the pesticide application.
- *Excess Pesticides* - all pesticides that cannot be legally sold or that are to be discarded.
- *Label* - the written, printed, or graphic matter on, or attached to, the pesticide (or device) or the immediate container thereof, and the outside container or wrapper of the retail package, if any there be, of the pesticide (or device).

- **Pest** - any insect, rodent, nematode, fungus, weed, or any other noxious or undesirable microorganism or macroorganism, except viruses, bacteria, or other microorganisms on or in living persons or other living animals.
- **Person** - any individual, firm, partnership, company, joint stock association, public or private institution, municipality or county or local government unit, state or Federal governmental agency, or public or private corporation organized under the laws of this state or the United States or any other state or country.
- **Pesticide** - any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.
- **Restricted Use Pesticide** - any pesticide required by the U.S. Environmental Protection Agency (USEPA) to bear the designation on its labeling RESTRICTED USE PESTICIDE, any pesticide approved under North Carolina law, and arsenic trioxide.
- **Spray Equipment** - the equipment used for spraying liquid mixtures of pesticides in an agricultural aircraft operation.
- **Storage** - the act of storing a pesticide or pesticide container unless the pesticide or pesticide container is being transported or used. It does not include:
 1. pesticide containers that are empty and triple-rinsed (or equivalent)
 2. pesticides that meet the requirements of a *Resource Conservation and Recovery Act (RCRA)* hazardous waste and are in the possession of a person possessing a valid USEPA RCRA identification number as a generator or transporter of hazardous waste or who owns or operates a facility for the treatment, storage, or disposal of hazardous waste.
- **Storage Area** - that portion of a storage facility actually used to store pesticides.
- **Target Area** - intended site of pesticide application.
- **Under the Direct Supervision of** - includes the receipt by the noncertified applicator of verifiable specific and individual job or work assignments and instructions from the certified applicator under whose direct supervision and control the noncertified applicator is functioning prior to the use and application of a restricted use pesticide. In other situations as required by the label, the actual physical presence of a certified applicator may be required when application is made by a noncertified applicator.

FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)
GUIDANCE FOR NORTH CAROLINA CHECKLIST USERS

APPLICABILITY:

**REFER TO
CHECKLIST
ITEMS:**

Application Drift	9-1
Licensing and Certification	9-2
Recordkeeping	9-3
Restricted Use Pesticides	9-4
Storage	9-5
Disposal	9-6
Special Restrictions on Specific Pesticides and Pests	9-7

COMPLIANCE CATEGORY:
FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>APPLICATION DRIFT</p> <p>9-1. Pesticides must be applied according to specific procedures (2 NCAC 9L .1404).</p> <p>LICENSING AND CERTIFICATION</p> <p>9-2. Personnel who apply pesticides must be licensed, and personnel who apply restricted use pesticides must be certified (2 NCAC 9L .0519 and .1105(b)).</p>	<p>Verify that personnel do not apply pesticides when drift from pesticide particles or vapors may result in adverse effect.</p> <p>Verify that personnel who apply pesticides are licensed in the classification in which they apply pesticides.</p> <p>Verify that personnel who apply restricted use pesticides are certified.</p> <p>Verify that all noncertified applicators who apply restricted use pesticides are competent persons acting under the direct supervision of a certified applicator whose certification permits this application.</p> <p>Verify that the certified applicator acting in a supervisory role is available to the non-certified applicator in the event he is needed.</p> <p>Verify that the certified applicator keeps the noncertified applicator fully aware of all directions for use and cautions necessary for safe use and application of any restricted use pesticide the noncertified applicator may apply.</p> <p>Verify that all noncertified applicators applying any restricted use pesticide under the direct supervision of a certified applicator have available at the application site or at the loading and mixing site, if different from the application site, the following:</p> <ul style="list-style-type: none"> - detailed written or printed directions for applying the restricted use pesticide (pesticide product label may suffice) - detailed written or printed instructions describing procedures to be followed in order to prevent injury to the applicator, other persons and/or unreasonable adverse effects on the environment (pesticide product label may suffice) - detailed instructions for contacting the certified applicator whose supervision the noncertified applicator is working (i.e., name, location, telephone number, radio contact, etc.), which result in direct communication with the certified applicator.

COMPLIANCE CATEGORY: FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
RECORDKEEPING 9-3. Licensed applicators must keep records of restricted use pesticides (2 NCAC 9L .1402).	<p>Verify that all licensed pesticide applicators, including public operators utilizing ground equipment, keep records of applications that include the following information about restricted use pesticide applications:</p> <ul style="list-style-type: none"> - name of licensed pesticide applicator or licensed public operator - name and address of the person for whom the pesticide was applied - identification of farm or sites treated with pesticides - name of crop, commodity, or objects that were treated with pesticides - approximate number of acres or size or number of other objects treated - dates pesticides were applied - the brand name of the pesticides and USEPA registration numbers - amount (volume or weight) of pesticide formulations or active ingredients applied per unit of measure - names of persons applying pesticides. <p>Verify that restricted use pesticide application records are kept for a period of 3 yr.</p>
RESTRICTED USE PESTICIDES 9-4. Personnel must meet requirements for restricted use pesticide use (2 NCAC 9L .1302).	<p>Verify that restricted use pesticides are made available only to personnel who are licensed pesticide applicators, certified structural pest control applicators, or structural pest control licensees.</p>
STORAGE 9-5. Pesticide storage must meet specific requirements (2 NCAC 9L .1902).	<p>Verify that all pesticides are stored in a manner that prevents leaking and facilitates inspection.</p> <p>Verify that formulated pesticide products are not stored in unlabeled containers.</p> <p>Verify that all containers of formulated pesticides clearly and prominently include the following information:</p> <ul style="list-style-type: none"> - common chemical name - percentage of each active ingredient - USEPA registration number - signal word - use classification (restricted use or general use).

COMPLIANCE CATEGORY: FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
9-5. (continued)	<p>Verify that pesticides are not stored in any food, feed, beverage, or medicine container that has previously been used for these purposes, or that is specifically designed to contain only those products.</p> <p>Verify that pesticides are not stored in a manner that could cause contamination of foods, feeds, beverages, eating utensils, tobacco, tobacco products, other pesticides, seeds, or fertilizers, or otherwise likely to result in accidental ingestion by humans or domestic animals.</p> <p>Verify that pesticides are stored in accordance with the storage recommendations on their labeling and the labeling on all other products, including non-pesticide products, held in the same storage area.</p> <p>Verify that when unattended, pesticides are stored to prevent unauthorized access.</p> <p>Verify that pesticides are stored in an area that is dry (does not accumulate water) and ventilated.</p> <p>Verify that pesticide storage areas are free of combustible materials such as gasoline, kerosene, or petroleum solvents other than those associated with pesticide application and debris such as waste paper, rags, or used cardboard boxes that may provide an ignition source, and are separated from other operations that present a fire hazard such as welding or burning.</p> <p>Verify that appropriate care is taken to minimize fire hazard potential when providing supplemental heating to storage during winter months.</p>
DISPOSAL 9-6. Pesticides and pesticide containers must be disposed according to specific procedures (2 NCAC 9L .0602 through 2 NCAC 9L .0604).	<p>Verify that in considering disposal techniques, first preference is given to procedures designed to recover some useful value from any excess pesticides.</p> <p>Verify that wherever possible, excess pesticide is used according to its labeling for the purpose originally intended.</p> <p>Verify that prior to disposal, all pesticide containers are thoroughly emptied, using the practices commonly employed to remove materials from that type of container, like shaking, pumping, pouring, triple-rinsing, and draining into the application tank.</p> <p>Verify that pesticide containers are disposed of in accordance with their labeling requirements.</p>

COMPLIANCE CATEGORY: FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA) North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
9-6. (continued)	Verify that personnel do not dispose of pesticides or pesticide containers using any of the following techniques: <ul style="list-style-type: none"> - open dumping - open burning - water dumping or ocean dumping.
SPECIAL RESTRICTIONS ON SPECIFIC PESTICIDES AND PESTS	
9-7. Application of specific pesticides and application of pesticides to specific pests is specially restricted (2 NCAC 9L .0502, .0702, .0704 through .0706, and .1201).	(NOTE: Restricted use pesticides are those pesticides so designated by the USEPA and those that contain arsenic trioxide.) Verify that pesticide formulations containing the active ingredient arsenic trioxide are not used or stored inside or in the immediate vicinity of any building used as a human dwelling. Verify that pesticides are used against gull at airports only under specific permit. Verify that use of pesticides against the pigeon (rock dove) <i>Columba livia</i> meets the following restrictions: <ul style="list-style-type: none"> - only materials registered for this purpose are used, and these materials are used in accordance with label directions - the pesticides are distributed to minimize the hazard to nontarget species, and that all unconsumed bait that is not in protected bait stations is picked up within 1 week - in municipalities dead birds are picked up and disposed of by incineration or buried at intervals not to exceed 24 h. Verify that pesticides used to control red-winged blackbird, <i>Agelaius phoeniceus</i> (<i>linnaeus</i>), are registered for this purpose, and only used if the red-winged blackbird is committing or about to commit depredations upon ornamental or shade trees, agricultural crops, livestock, or wildlife, or when concentrated to form a health hazard or other nuisance.

INSTALLATION:	COMPLIANCE CATEGORY: FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA) North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 10

**NATIONAL HISTORIC PRESERVATION ACT (NHPA)
AND CULTURAL RESOURCES**

North Carolina Supplement

SECTION 10

NATIONAL HISTORIC PRESERVATION ACT (NHPA) AND CULTURAL RESOURCES

North Carolina Supplement

Definitions

These definitions were obtained from the North Carolina Administrative Code (NCAC) T07: 04R Sections .0200 through .1400.

- *Abandoned Shipwrecks* - sunken ships, boats, and watercraft and their associated cargoes, tackle, and materials.
- *Adverse Effect* - an effect of an undertaking on a property on or eligible for the National Register occurring under conditions that include, but are not limited to:
 1. destruction or alteration of all or part of a property
 2. isolation from or alteration of a property's surrounding environment
 3. introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting
 4. transfer or sale of a state-owned property listed on the National Register without adequate conditions or restrictions regarding preservation, maintenance, or use
 5. neglect of a property resulting in its deterioration or destruction.
- *National Register or National Register of Historic Places* - the national listing of districts, sites, buildings, or structures and objects significant in American history, architecture, archaeology, engineering and culture.
- *Underwater Archaeological Resources* - those materials showing human workmanship or modification or having been used or intended to be used or consumed by humans, including relics, monuments, tools and fittings, utensils, instruments, weapons, ammunition, and treasure trove and precious metals including gold, silver, bullion, jewelry, pottery, ceramic, and similar or related materials.

**NATIONAL HISTORIC PRESERVATION ACT (NHPA) AND
CULTURAL RESOURCES**

GUIDANCE FOR NORTH CAROLINA CHECKLIST USERS

APPLICABILITY:

**REFER TO
CHECKLIST
ITEMS:**

All Installations

10-1 through 10-2

COMPLIANCE CATEGORY:
NATIONAL HISTORIC PRESERVATION ACT (NHPA) AND
CULTURAL RESOURCES
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>ALL INSTALLATIONS</p> <p>10-1. Installations are required to consult the Director prior to any undertaking that may adversely affect property listed on the National Register or archaeological resources (NCAC T07: 04R Section .0200).</p> <p>10-2. No person may conduct an investigation of abandoned shipwrecks or archaeological resources in state-owned navigable waters without a permit (NCAC T07: 04R Section .1000).</p>	<p>Determine if the installation has properties that are listed on or are eligible for inclusion on the National Register.</p> <p>Verify that when planning projects that may adversely affect properties eligible for or listed on the National Register, the installation consults with the Director, Division of Archives and History to minimize the adverse effects on the property.</p> <p>Verify that any ground disturbing activities are reviewed for archaeological concerns by the Director.</p> <p>Determine if the installation contains is bordered by state-owned bottoms of navigable waters.</p> <p>Verify that no person conducts exploration, recovery, or salvage of abandoned shipwrecks or underwater archaeological resources or removal, displacement or destruction of artifacts in areas of state-owned bottoms of navigable waters without a permit from the Division of Archives and History.</p>

INSTALLATION:	COMPLIANCE CATEGORY: NATIONAL HISTORIC PRESERVATION ACT (NHPA) AND CULTURAL RESOURCES North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 11

NATURAL RESOURCES MANAGEMENT

North Carolina Supplement

SECTION 11

NATURAL RESOURCES MANAGEMENT

North Carolina Supplement

Definitions

These definitions were obtained from the: *North Carolina Plant Protection and Conservation Act*, Chapter 106, and the North Carolina Administrative Code (NCAC) Title 15A.

- *Accelerated Erosion* - any increase over the rate of natural erosion as a result of land disturbing activities.
- *Area of Environmental Concern* - areas, water and land, in which uncontrolled or incompatible development might result in irreversible damage. Areas of environmental concern include, but are not limited to, estuaries, coastal wetlands, estuarine shorelines, ocean hazard areas, public trust areas, historically significant areas, and coastal complex natural areas
- *Coastal Waters* - the navigable waters of the United States subject to the ebb and flow of the tide and which are saline waters, shoreward to their mean high-water mark.
- *Coastal Wetland* - any salt marsh or other marsh subject to occasional or regular flooding by tides, including wind tides, but not including hurricane or tropical storm tides.
- *Commission* - the Coastal Resources Commission of North Carolina.
- *Dam* - any artificial barrier, together with appurtenant works, including but not limited to dams, levees, dikes, or floodwalls for the impoundment or diversion of water or other fluids where failure may cause danger to life or property.
- *Director* - the Director of the Division of Land Resources, North Carolina Department of Natural Resources and Community Development.
- *Endangered Species* - any species or subspecies of fish, wildlife, or plant that may become extinct or disappear from a significant part of its range if they are not immediately protected. This includes any species determined by the U.S. Fish and Wildlife Service to be endangered.
- *Estuary* - that part of a river or stream or body of water having unimpaired connection with the open sea, where sea water is measurably diluted with fresh water derived from land drainage.
- *Sedimentation* - the process by which sediment resulting from accelerated erosion has been or is being transported off the site of the land disturbing activity or into a lake or natural watercourse.
- *Threatened Species* - any species or subspecies of fish, wildlife, or plant that may become endangered if they are not protected.

**NATURAL RESOURCES MANAGEMENT
GUIDANCE FOR NORTH CAROLINA CHECKLIST USERS**

APPLICABILITY	REFER TO CHECKLIST ITEMS:
Erosion and Sediment Control	11-1
Areas of Environmental Concern	11-2
Dam and Pier Construction	11-3 and 11-4
Threatened and Endangered Species	11-5

COMPLIANCE CATEGORY: NATURAL RESOURCES MANAGEMENT North Carolina Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
EROSION AND SEDIMENT CONTROL 11-1. Installations conducting land-disturbing activities must take precautions to protect property from erosion and sedimentation (NCAC, Title 15A, Chapter 4, Subchapter 4B).	<p>Determine if the installation conducts land-disturbing activities that may cause erosion or sedimentation.</p> <p>Verify that the installation has an erosion and sedimentation control plan that addresses the following control objectives:</p> <ul style="list-style-type: none"> - identifies areas subject to severe erosion and offsite areas especially vulnerable to damage from erosion and sedimentation - limiting areas exposed to erosion - limiting the time of exposure of areas to erosion and sedimentation - control surface water runoff originating upgrade of exposed areas - all land-disturbing activity planned and conducted so as to prevent offsite sedimentation damage - when increased velocity of storm water runoff resulting from land-disturbing activities causes accelerated erosion of the receiving watercourse, plans include measures to control the velocity to the point of discharge.
AREAS OF ENVIRONMENTAL CONCERN 11-2. Installations that undertake any development in an area of environmental concern must have a permit (NC Article 7, 113A-118).	<p>Determine if the installation is conducting any development in an area of environmental concern.</p> <p>(NOTE: All types of construction, associated land clearing, and land alteration, such as excavation and fill, are considered development.)</p> <p>Verify that all development is done in accordance with the specifications of a permits issued from the Commission.</p>

**COMPLIANCE CATEGORY:
NATURAL RESOURCES MANAGEMENT
North Carolina Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>DAM AND PIER CONSTRUCTION</p> <p>11-3. Installations that construct a new dam or repair, alter, or remove an existing dam must have a permit (NCAC Title 15A: 02K.0201).</p> <p>11-4. Installations that construct a pier in an area of environmental concern must have a permit (NCAC Title 15A: 07H.1201).</p> <p>THREATENED AND ENDANGERED SPECIES</p> <p>11-5. Installations must not take, possess, transport, export, process, sell or offer for sale or ship any threatened or endangered species (NCAC Title 15A:101.0002 and <i>NC Plant Protection and Conservation Act</i>).</p>	<p>Verify that installations that construct a new dam or repair, alter, or remove an existing dam have a written permit from the Director.</p> <p>Verify that installations do not construct a new dam prior to obtaining a valid permit to construct from the Director.</p> <p>Verify that installations do not construct a pier, dock, or boat house in any area of environmental concern without having obtained a permit from the Division of Coastal management.</p> <p>Determine if the installation has any threatened or endangered species listed in Appendix 11-1 or 11-2 on its grounds.</p> <p>Verify that no endangered or threatened species are taken, possessed, transported, exported, processed, sold, or offered for sale or shipped.</p> <p>(NOTE: Habitats of endangered species are considered areas of environmental concern. See the section on Areas of Environmental Concern for regulations concerning these habitats.)</p>

Appendix 11-1

North Carolina Threatened and Endangered Animal Species

(Source: North Carolina Administrative Code T15A:101 .0003)

STATUS	COMMON NAME	SCIENTIFIC NAME
E	American Peregrine Falcon	<i>Falco peregrinus anatum</i>
E	Bachman's Warbler	<i>Vermivora bachmanii</i>
E	Bald Eagle	<i>Haliaeetus leucocephalus</i>
E	Ivory-billed Woodpecker	<i>Campephilus principalis</i>
E	Kirtland's Warbler	<i>Dendroicea kirtlandi</i>
E	Red-cockaded Woodpecker	<i>Picoides boreallis</i>
E	Roseate Tern	<i>Sterna dougallii dougallii</i>
E	Wood Stork	<i>Mycteria americana</i>
E	Bewick's Wren	<i>Thryomanes bewickii</i>
T	Artic Peregrine Falcon	<i>Falco peregrinus tundrius</i>
T	Piping Plover	<i>Charadrius melodus</i>
T	Gull-billed tern	<i>Gelochelidon nilotica aranea</i>
E	Cape Fear Shiner	<i>Notropis mekistocholas</i>
E	Shortnosed Sturgeon	<i>Acipenser brevirostrum</i>
T	Spotfin Chub	<i>Hybopsis monacha</i>
T	Waccamaw Silverside	<i>Menidia extensa</i>
E	Blotchside Logperch	<i>Percina burtoni</i>
E	Cutlips Minnow	<i>Exoglossum maxillingua</i>
E	Dusky Darter	<i>Percina sciera</i>
E	Orangefin Madtom	<i>Noturus gilberti</i>
E	Paddlefish	<i>Polyodon spatula</i>
E	Rustyside Sucker	<i>Moxostoma hamiltoni</i>
E	Stonecat	<i>Noturus flavus</i>
T	American Brook Lamprey	<i>Lamptera appendix</i>
T	Banded Sculpin	<i>Cottus carolinae</i>
T	Carolina Pygmy Sunfish	<i>Elassoma boehlkei</i>
T	Freshwater Drum	<i>Aplodinotus grunniens</i>
T	Logperch	<i>Percina caprodes</i>
T	Rosyface Chub	<i>Hybopsis rubrifrons</i>
T	Sharphead Darter	<i>Etheostoma acuticeps</i>

(continued)

Appendix 11-1 (continued)

STATUS	COMMON NAME	SCIENTIFIC NAME
T	Striped Shiner	<i>Notropis chrysocephalus</i>
T	Waccamaw Darter	<i>Etheostoma perlongum</i>
E	Carolina Northern Flying Squirrel	<i>Glaucomys sabrinus coloratus</i>
E	Eastern Cougar	<i>Felis concolor cougar</i>
E	Gray Bat	<i>Myotis grisescens</i>
E	Indiana Bat	<i>Myotis sodalis</i>
E	Manatee	<i>Trichechus manatus</i>
E	Virginia Big-eared Bat	<i>Plecotus townsendii townsendii</i>
T	Dismal Swamp Southern Shrew	<i>Sorex longirostris fisheri</i>
T	Eastern Wood Rat	<i>Noetoma floridana floridana</i>
T	Bog Turtle	<i>Clemmys muhlenbergii</i>
E	Atlantic Ridley Turtle	<i>Lepidochelys kempii</i>
E	Hawksbill Turtle	<i>Eretmochelys imbricata</i>
E	Leatherback Turtle	<i>Dermochelys coriacea</i>
T	American Alligator	<i>Alligator mississippiensis</i>
T	Green Turtle	<i>Chelonia mydas</i>
T	Loggerhead Turtle	<i>Caretta caretta</i>
E	Dwarf Wedge Mussel	<i>Alasmidonta heterodon</i>
E	Little-wing Pearlymussel	<i>Pegias fabula</i>
E	Tar River Spiny Mussel	<i>Elliptio steinstansana</i>
E	Appalachian Elktoe	<i>Alasmidonta raveneliana</i>
E	Barrel Floater	<i>Anodonta couperiana</i>
E	Carolina Heelsplitter	<i>Lasmigona decorata</i>
E	Fragile Glyph	<i>Glyphyalina clingmani</i>
E	Green Floater	<i>Lasmigona subviridus</i>
E	Knotty Elimia	<i>Goniobasis interrupta</i>
E	Magnificent Rams-horn	<i>Planorbella magnifica</i>
E	Neuse Spike	<i>Elliptio judithae</i>
E	Pistolgrip	<i>Tritigonia verrucosa</i>
E	Slippershell Mussel	<i>Alasmidonta viridus</i>
E	Tennessee Hellsplitter	<i>Lasmigona holstonia</i>
E	Tennessee Pigtoe	<i>Fusconaia barnesiana</i>
T	Noonday Globe	<i>Mesodon clarki nantahala</i>
T	Atlantic Pigtoe	<i>Fusconaia masoni</i>

(continued)

Appendix 11-1 (continued)

STATUS	COMMON NAME	SCIENTIFIC NAME
T	Big-tooth Covert	<i>Mesodon jonestianus</i>
T	Brook Floater	<i>Alasmidonta varicosa</i>
T	Cape Fear Spike	<i>Elliptio marsupiobesa</i>
T	Cape Fear Threetooth	<i>Triodropsis soelneri</i>
T	Clingman Covert	<i>Mesodon clingmanicus</i>
T	Engraved Covert	<i>Mesodon orestes</i>
T	Mountain Creekshell	<i>Villosa vanuxemensis</i>
T	Roan Supercoil	<i>Paravitrea varidens</i>
T	Roanoke Slabshell	<i>Elliptio roanokensis</i>
T	Savannah Lilliput	<i>Toxolasma pullus</i>
T	Sculpted Supercoil	<i>Paravitrea ternaria</i>
T	Seep Mudalia	<i>Leptoxis dilatata</i>
T	Smoky Mountain Covert	<i>Mesodon ferrissi</i>
T	Squawfoot	<i>Strophitus undulatus</i>
T	Triangle Floater	<i>Alasmidonta undulata</i>
T	Waccamaw Ambersnail	<i>Catinella waccamawensis</i>
T	Waccamaw Fatmucket	<i>Lampsilis fullerhati</i>
T	Waccamaw Spike	<i>Elliptio waccamawensis</i>
T	Yellow Lampmussel	<i>Lampsilis cariosa</i>
T	Yellow Lance	<i>Elliptio lanceolata</i>
E	Green Salamander	<i>Aneides aeneus</i>
T	Eastern Tiger Salamander	<i>Ambystoma tigrinum tigrinum</i>
T	Wehrle's Salamander	<i>Plethodon wehrlei</i>

E = Endangered

T = Threatened

Appendix 11-2

North Carolina Threatened and Endangered Plant Species

(Source: North Carolina Plant Conservation Board T02: 48F .0300)

STATUS	COMMON NAME	SCIENTIFIC NAME
E	Sensitive Jointvetch	<i>Aeschynomene virginica</i>
E	Bog Rose	<i>Arethua bulbosa</i>
E	Carolina Spleenwort	<i>Asplenium heteroresiliens</i>
E	Single-sorus Spleenwort	<i>Asplenium monanthes</i>
E	Gorge Moss	<i>Bryocrumia andersonii</i>
E	Piratebush	<i>Buckleya distichophylla</i>
E	Cain's Reed Grass	<i>Calamagrostis cainii</i>
E	Small-anthered Bittercress	<i>Cardimine micranthera</i>
E	Fernald's Hay Sedge	<i>Carex aenea</i>
E	Barratt's Sedge	<i>Carex barrattii</i>
E	Purple Sedge	<i>Carex purpurifera</i>
E	Schweintz's Sedge	<i>Carex schweintzii</i>
E	Tennessee Bladderfern	<i>Cystopteris tennesseensis</i>
E	Robin Runaway	<i>Dalibarda repens</i>
E	Tall Larkspur	<i>Delphinium exaltatum</i>
E	Smooth Coneflower	<i>Echinacea laevigata</i>
E	Linear Pipewort	<i>Eriocaulon lineare</i>
T	Resinous Boneset	<i>Eupatorium resinosum</i>
E	Fringed Gentian	<i>Gentianopsis crinita</i>
E	Spreading Avens	<i>Genum radiatum</i>
T	Smoky Mountain Mangrass	<i>Glyceria nubigena</i>
E	Dwarf Polypody Fern	<i>Grammitis nimbata</i>
E	Schweintz's Sunflower	<i>Helianthus schweintzii</i>
E	Mountain Heartleaf	<i>Hexastylis contracta</i>
E	Dwarf-flowered Heartleaf	<i>Hexastylis niniflora</i>
T	Coastal Sedge	<i>Carex exilis</i>
E	Mountain Bluet	<i>Houstonia purpurea montana</i>
E	Goldenseal	<i>Hydrastis canadensis</i>
E	Small Whorled Pogonia	<i>Isotria medoloides</i>
E	One-flowered Rush	<i>Juncus trifidus carolinianus</i>

(continued)

Appendix 11-2 (continued)

STATUS	COMMON NAME	SCIENTIFIC NAME
E	White Wicky	<i>Kalmia cuneata</i>
E	Southern Spicebush	<i>Lindera melissaefolia</i>
E	Bog Spicebush	<i>Lindera subcoriacea</i>
E	Rough-leaf Loosestrife	<i>Lysimachia asperulaefolia</i>
E	Fraser's Loosestrife	<i>Lysimachia fraseri</i>
E	Godfrey's Sandwort	<i>Minuartia godfreyi</i>
E	Single-flowered Sandwort	<i>Minuartia uniflora</i>
E	Torrey's Muhly	<i>Muhlenbergia torreyana</i>
E	Bog Asphodel	<i>Narthecium americanum</i>
E	Bigleaf Scurfpea	<i>Orbexilum macrophyllum</i>
E	Keever's Bristle Moss	<i>Orthotrichum keeverae</i>
E	Canby's Cowbane	<i>Oxypolis canbyi</i>
E	Caroline Grass-of-Parnassus	<i>Parnassia caroliniana</i>
E	Wright's Cliff-brake Fern	<i>Pellaea wrightiana</i>
E	Heart-leaf Plantain	<i>Plantago cordata</i>
E	Pineland Plantain	<i>Plantago sparsiflora</i>
E	White Fringeless Orchid	<i>Platanthera integrilabia</i>
T	Small's Portulaca	<i>Portulaca smallii</i>
E	Eulophia	<i>Pteroglossaspis ecristata</i>
E	Harperella	<i>Ptiliminium nodosum</i>
E	Well's Pyxie-moss	<i>Pyxidanthera barbulata brevifolia</i>
E	Michaux's Sumac	<i>Rhus michauxii</i>
E	Bunched Arrowhead	<i>Sagittaria fasciculata</i>
E	Mountain Sweet Pitcher Plant	<i>Sarracenia jonesii</i>
E	Green Pitcher Plant	<i>Sarracenia oreophila</i>
E	Chaffseed	<i>Schwalbea americana</i>
E	Puck's Orpine	<i>Sedum pusillum</i>
E	Roseroot	<i>Sedum rosea</i>
E	Schweintiz's Groundsel	<i>Senecio schweinitzianus</i>
E	Oconee Bells	<i>Shortia galacifolia</i>
E	Reflexed Blue-eyed Grass	<i>Sisyrinchium dichotomum</i>
E	Caroline Goldenrod	<i>Solidago pulchra</i>
E	Blue Ridge Goldenrod	<i>Solidago spithamea</i>
E	Spring-flowering Goldenrod	<i>Solidago verna</i>

(continued)

Appendix 11-2 (continued)

STATUS	COMMON NAME	SCIENTIFIC NAME
E	Virginia Spiraea	<i>Spiraea virginiana</i>
E	Prairie Dropseed	<i>Sporobolus heterolepis</i>
E	Pickering's Morning Glory	<i>Stylisma pickeringii</i>
E	Cooley's Meadowrue	<i>Thalictrum cooleyi</i>
E	Carolina Least Trillium	<i>Trillium pusillum</i>
E	Soft Trisetum	<i>Trisetum spicatum molle</i>
E	Georgia Indigo-bush	<i>Amorpha georgiana georgiana</i>
T	Savanna Indigo-bush	<i>Amorpha georgiana confusa</i>
E	Serpentine Aster	<i>Aster depauperatus</i>
E	Woody Goldenrod	<i>Chrysoma pauciflosculosa</i>
E	Hemlock Parsley	<i>Conioselinum chinense</i>
E	Queen-of-the-Prairie	<i>Filipendula rubra</i>
E	Mountain Golden Heather	<i>Hudsonia montana</i>
E	Golden Crest	<i>Lophiola aurea</i>
E	Sweet Gale	<i>Myrica gale</i>
E	Liverwort	<i>Plagiochila caduciloba</i>
T	Snowy Orchid	<i>Platanthera nivea</i>
E	Bog Bluegrass	<i>Poa paludigena</i>
E	Mosquito Beak Sedge	<i>Rhynchospora crinipes</i>
E	Large Beak Sedge	<i>Rhynchospora macra</i>
E	Sun-facing Coneflower	<i>Rudbeckia heliopsidis</i>
T	Low Wild Petunia	<i>Ruellia humilis</i>
E	Prairie Goldenrod	<i>Solidago ptarmicoides</i>
E	Ammon's Tortula	<i>Tortula ammonsiana</i>
T	Seabeach Amaranth	<i>Amaranthus pumilus</i>
T	Rugel's Ragwort	<i>Cacalia rugelia</i>
T	Wild Hyacinth	<i>Camassia scilloides</i>
T	Cone-shaped Sedge	<i>Carex conoidea</i>
T	Nutmeg Hickory	<i>Carya myristicaeformis</i>
T	Salt Spikerush	<i>Elocharis halophila</i>
T	Harper's Fringe-rush	<i>Fimbristylis perpusilla</i>
T	Bent Avena	<i>Genum geniculatum</i>
T	Gnome Finger Lichen	<i>Gymnoderma lineare</i>
T	Swamp Pink	<i>Helonias bullata</i>

(continued)

Appendix 11-2 (continued)

STATUS	COMMON NAME	SCIENTIFIC NAME
T	Long-stalked Holly	<i>Ilex collina</i>
T	Piedmont Quilwort	<i>Isoetes piedmontana</i>
T	Hellar's Blazing Star	<i>Liatris helleri</i>
T	Carolina Lilacopsis	<i>Lilaeopsis carolinensis</i>
T	Gray's Lily	<i>Lilium grayi</i>
T	Buckbeam	<i>Menyanthes trifoliata</i>
T	Loose Watermilfoil	<i>Myriophyllum laxum</i>
T	Yellow Fringeless Orchid	<i>Platanthera integra</i>
T	Awned Meadow-beauty	<i>Rhexia aristosa</i>
T	Plymouth Gentian	<i>Sabatia kennedyana</i>
T	Magnolia Vine	<i>Schisandra glabra</i>
T	Highlands Moss	<i>Schlotheimia lancifolia</i>
T	Divided-leaf Ragwort	<i>Senecio millefolium</i>
T	Wireleaf Dropseed	<i>Sporobolus teretifolius</i>
T	Bog Fern	<i>Thelypteris simulata</i>
T	Appalachian Filmy-fern	<i>Trichomanes boschianum</i>
T	Dwarf Filmy-fern	<i>Trichomanes petersii</i>
T	Mottled Trillium	<i>Trillium discolor</i>
T	Dwarf Bladderwort	<i>Utricularia olivacea</i>

E = Endangered

T = Threatened

INSTALLATION:	COMPLIANCE CATEGORY: NATURAL RESOURCES MANAGEMENT North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 12

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

North Carolina Supplement

SECTION 12

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

North Carolina Supplement

This section has no specific, applicable state regulations. Refer to the U.S. ECAS Manual for Army requirements.

INSTALLATION:	COMPLIANCE CATEGORY: NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 13

ASBESTOS MANAGEMENT PROGRAM

North Carolina Supplement

SECTION 13

ASBESTOS MANAGEMENT PROGRAM

North Carolina Supplement

Definitions

These definitions were obtained from the North Carolina General Statutes (NCGS) Article 19, Section 130A-444.

- *Asbestos* - the asbestiform varieties of the minerals chrysolite (serpentine), crocidolite, amosite, anthophyllite, tremolite, and actinolite.
- *Asbestos Containing Material* - material that contains more than 1 percent asbestos by area, including friable asbestos containing material and nonfriable asbestos containing material.
- *Abatement* - work performed to repair, maintain, remove, isolate, or encapsulate asbestos containing material. The term does not include inspections, preparation of management plans, abatement project design, taking samples, or project overview.
- *Friable* - any material that, when dry, can be broken, crumbled, pulverized, or reduced to powder by hand pressure, and includes previously nonfriable material after such material becomes damaged to the extent that, when dry, it can be reduced to powder by hand pressure.
- *Management* - all activities related to asbestos containing material, including inspection, abatement project design, and taking of samples.
- *Removal* - stripping, chipping, sanding, sawing, drilling, scraping, and other means of separating material from its installed location in a building.

**ASBESTOS MANAGEMENT PROGRAM
GUIDANCE FOR NORTH CAROLINA CHECKLIST USERS**

APPLICABILITY	REFER TO CHECKLIST ITEMS:
Asbestos Removal	13-1 and 13-2

COMPLIANCE CATEGORY:
ASBESTOS MANAGEMENT PROGRAM
North Carolina Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p>ASBESTOS REMOVAL</p> <p>13-1. Installations conducting asbestos abatement must have a permit (NCGS, Section 1, Chapter 130A, Article 19, Section 130A-449).</p> <p>13-2. All persons performing asbestos management must have accreditation (NCGS Section 130A-447).</p>	<p>Determine if the installation is conducting asbestos abatement activities involving more than 35 ft³ [0.99 m³], 160 ft² [14.86 m²], or 260 linear feet [79.25 linear meters] of friable asbestos, or asbestos that may become friable during removal.</p> <p>Verify that the installation has sent notification of asbestos abatement activities to the NC Asbestos Hazard Management Branch at least 10 days prior to the start of such activity.</p> <p>Verify that all asbestos abatement activities are conducted in accordance with a valid permit issued by the Asbestos Hazards Management Branch.</p> <p>Verify that no person conducts asbestos management activities without having received accreditation from the NC Asbestos Hazard Management Branch.</p>

INSTALLATION:	COMPLIANCE CATEGORY: ASBESTOS MANAGEMENT PROGRAM North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 14

NOISE ABATEMENT

North Carolina Supplement

SECTION 14
NOISE ABATEMENT
North Carolina Supplement

The following requirements are taken from the Motor Vehicle Laws of North Carolina, Section 20-128.
There are no statewide regulations regarding airport noise control.

NOISE ABATEMENT
GUIDANCE FOR NORTH CAROLINA CHECKLIST USERS

Applicability	Refer to Checklist Items:
Motor Vehicles	14-1

COMPLIANCE CATEGORY:
NOISE ABATEMENT
North Carolina Supplement

**REGULATORY
REQUIREMENTS:**

REVIEWER CHECKS:

ALL INSTALLATIONS

14-1. Motor vehicles must be equipped with specific noise abatement equipment (North Carolina Traffic Laws, Section 20-128).

Verify that motor vehicles are equipped with a muffler in good working order and in constant operation to prevent excessive or unusual noise and annoying smoke.

Verify that no muffler cutouts, bypasses, or similar devices are used on a motor vehicle upon the highway.

INSTALLATION: 	COMPLIANCE CATEGORY: NOISE ABATEMENT Carolina Supplement	DATE: 	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 15

RADON PROGRAM

North Carolina Supplement

SECTION 15
RADON PROGRAM

North Carolina Supplement

North Carolina has no requirements concerning radon. Refer to the U.S. ECAS Manual for Army and DOD requirements.

INSTALLATION:	COMPLIANCE CATEGORY: RADON PROGRAM North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 16

ENVIRONMENTAL PROGRAM MANAGEMENT (EPM)

North Carolina Supplement

SECTION 16

ENVIRONMENTAL PROGRAM MANGEMENT (EPM)

North Carolina Supplement

This section has no specific, applicable state regulations. Refer to the U.S. ECAS Manual for Army requirements.

INSTALLATION:	COMPLIANCE CATEGORY: ENVIRONMENTAL PROGRAM MANAGEMENT (EPM) North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		

SECTION 17

HAZARDOUS MATERIALS MANAGEMENT

North Carolina Supplement

SECTION 17

HAZARDOUS MATERIALS MANAGEMENT

North Carolina Supplement

The State of North Carolina has adopted the U.S. Department of Transportation rules and regulations relating to the transportation of hazardous materials when operating on the highways of the state. Sections adopted are: 49 Code of Federal Regulations 170 through 190 and 390 through 398.

In addition, the state has adopted the National Fire Protection Association Standards 30 and 30A regarding the storage of hazardous materials in aboveground tanks. See Section 17 in the U.S. ECAS Manual for Federal, Army, and DOD requirements.

INSTALLATION:	COMPLIANCE CATEGORY: HAZARDOUS MATERIALS MANAGEMENT North Carolina Supplement	DATE:	REVIEWER(S):
STATUS NA C RMA	REVIEWER COMMENTS:		